# On Track 7

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# Foreword

**You have been on track with *On Track* for the past two years and you are finally approaching the matriculation examination. The two remaining courses, *On Track 7* and *On Track 8*, will help you develop the proficiency you need to do well in your final English exam.**

*On Track 7* will help you to

- increase your range of vocabulary, especially in the areas of nature and the environment.
- revise key areas of grammar to improve your written and spoken English.
- meet the requirements of the matriculation examination.

As before, the course book is divided into four units. However, unlike the previous course books, *On Track 7* does not differentiate between *Key texts* and *Read on* texts. Instead, students and teachers can choose the texts that are studied together. The remaining texts can be used as independent preparation for the matriculation examination.

Unit 4 is a full examination preparation package that contains both reading and listening comprehension exercises. You will also find grammar and structure exercises as well as writing tips and topics in this unit. All of this will prepare you for what lies ahead.

We wish you every success on the last stretch of your journey!

COURSE 7

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## Precourse

# Whatever the weather

Wherever you go, no matter what the weather,
always bring your own sunshine.
*(Anthony J. D'Angelo, American author)*

**A** **Here are two weather forecasts broadcast on the same day, Thursday 1 December. The first is from the UK and the second from Australia. Listen and fill in the vocabulary. Then summarize the two forecasts in pairs in English.**

**After listening, work in pairs or small groups.**

1 Given the weather, where would you rather be on this day? Why?
2 In your opinion, what are the best aspects of Finnish weather in your part of the country?

### UK

Good morning. Well, winter's begun with a real **1** _____ in the air across many parts of the country. A bitterly cold night in Wales with temperatures down to **2** _____ 6. **3** _____ across most of southern England this morning, but dry and **4** _____ throughout the day with bright blue skies. Top temperatures 2 or 3°C.

Further north, there's more in the way of cloud around which means the possibility of snow or **5** _____ later in the day. The snow is unlikely to **6** _____, but there'll be **7** _____ on the roads, especially in rural areas, so drivers are advised to proceed with caution. Sunny **8** _____ on the coast, mostly in the north-east, but a chilly **9** _____ coming in from the sea.

In northern Scotland, a cold start to the day, with temperatures well **10** _____. There is a risk of **11** _____ in the northwest highlands and **12** _____ winds mean a strong likelihood of **13** _____ snow. Drivers are advised to avoid the area. **14** _____ snow in low-lying areas and snow flurries may also cause disruption to travel. **15** _____ conditions on the west coast will give way to a mixture of **16** _____, sleet and snow later in the day.

### Australia

Thanks for joining us for the national forecast. It's the first day of summer and another **1** _____ day across parts of Eastern Australia. A big **2** _____ of low pressure in Queensland is causing severe **3** _____ through New South Wales, all the way down to Victoria. There is also an accompanying risk of **4** _____ and **5** _____ winds. Rain **6** _____ are expected in the eastern ranges of Victoria, but it should be a pretty dry day for much of southern Australia, if a little **7** _____.

Over in Western Australia another dry day, and thanks to **8** _____ winds we could have some cooler temperatures in the afternoon, around 26°C.

Some storms on the coastal districts of the Northern Territory and a 30% probability of **9** _____. But in the south we have the start of a **10** _____ with midday temperatures over 40°C and little cloud cover.

## B Natural disasters. Match the following vocabulary with the right explanation.

1 volcanic eruption _____
2 thunderstorm _____
3 tornado _____
4 landslide _____
5 hurricane _____
6 drought _____
7 earthquake _____
8 avalanche _____
9 flood _____
10 blizzard _____

A an overflow of large amount of water beyond its normal limits
B severe snowstorm
C mass of snow, ice and rocks falling rapidly down a mountainside
D sudden violent shaking of the ground
E period of abnormally low rainfall, leading to a shortage of water
F storm with strong winds, in particular a tropical cyclone in the Caribbean
G collapse of a mass of earth or rock from a mountain
H magma is released from a volcanic vent
I thunder and lightning, often with heavy rain or hail
J mobile, violently rotating winds

**C** **Weather to remember. In pairs or small groups talk about memorable weather experiences. Have you experienced any of the following types of weather?**

- Describe where you were. For example, at your summer place, abroad, on a plane, in a boat, on a bike, in a car etc.
- Describe what happened and how you felt.

| | | |
|---|---|---|
| black ice | gale force winds | really hot weather |
| a blizzard | heavy fog | snowdrifts |
| a drought | heavy rain | a sudden change in the weather |
| flooding | really cold weather | a thunderstorm |

**D** **My family and other animals. English has many expressions and idioms that relate to animals. Do you know these ten expressions? Choose the correct alternative. Translate the English expression into Finnish.**

1 If you weren't so **stubborn**, you'd realise that your parents are quite right.
a) hare-brained b) pig-headed c) pigeon-toed

2 Why am I always the **person who is unfairly blamed for things others have done**?
a) road hog b) bee's knees c) scapegoat

3 He was a **little known candidate** in the race to be President until he gave a fine speech on TV.
a) fat cat b) dark horse c) sitting duck

4 He is a real **unfriendly person**. He never talks to others.
a) fish out of water b) kettle of fish c) cold fish

5 My best friend called me a **coward** because I wouldn't climb the tree.
a) chicken b) rabbit c) worm

6 All insurance companies are **swindlers**. They take your money but they don't pay out.
a) sharks b) hawks c) guinea-pigs

7 He doesn't like team sports. He's always been **an independent person who prefers his own company**.
a) a lone wolf b) a big fish c) a bear with a sore head

8 Your friend has been gossiping about you. She's a real **hidden enemy**.
a) snake in the grass b) fly in the ointment c) bull in a china shop

**E** What's that sound? You will hear two recordings. First, listen and try to identify the animals that make the following sounds. Write your answers in the space below. Then listen to a game ranger in South Africa's Kruger National Park explaining the sounds to a group of tourists, and check your answers.

1 _____ 4 _____

2 _____ 5 _____

3 _____ 6 _____

**F** Adapt or die. Can plants and animals adapt quickly enough to outpace climate change? Work in pairs. Read texts 1 and 2 and do the exercise.

- Student A reads aloud text 1 to student B.
- Student B reads aloud text 2 to student A.
- After you have read your text to your partner, ask and answer the follow-up questions.

## 1 Tawny owls adapt

Tawny owls (*Strix aluco*) are nocturnal predators that live in the temperate forests of Europe. As you can tell from their English name, they are brownish in colour. Regardless of their gender or age, the colour of an owl's feathers depends on how much of a pigment called pheomelanin it has in its plumage. Though regular brown is the most common colour, pale brown or grey feathers help owls to blend in with a snowy landscape, enabling them to hide from predators. So more snow means paler, greyer tawny owls.

But the owls are adapting to climate change. According to a *Nature Communications* study, one population of tawny owls in Finland showed a significant increase in brown plumage over the last 28 years. The researchers also saw a nationwide increase in brown owls over the last 48 years. With less snow, brown owls are better at blending in with the surrounding forest, giving those birds a better chance to survive. So it makes perfect sense that natural selection might favour brown, rather than pale grey coloration.

1 What happens to the feathers of the tawny owl when there is more snow?
2 Why do the brown owls have a better chance of survival nowadays?

→

## 2 Giant pandas struggle

The WWF's logo since 1961 and a national treasure in China, pandas are struggling to survive the changing climate. Arguably the best-loved bears in the world, pandas live mainly in bamboo forests high in the mountains of western China. They subsist almost entirely on bamboo, needing to eat between 26 to 84 pounds of it every day in order to survive. Any threat to the bamboo forests will have a direct effect on the pandas' food supply. A new study, published in the journal *Nature Climate Change*, warned that prime panda habitat in China could be completely lost by the end of the century. Even the most optimistic forecasts predict major bamboo die-offs by the turn of the century, which in turn, would mean that pandas living in those areas would vanish too.

The unusual reproductive cycle of the bamboo plant limits its ability to adapt to climate change. One species only flowers and reproduces every 30–35 years, for example. There are places where bamboo is less affected by rising temperatures, but increased human development effectively blocks the bears' access to those places.

3 What is the connection between pandas and bamboo?
4 What affects the bamboo plant's ability to adapt to climate change?

# UNIT 1

## Where the wild things are

## Topic 1

# Handle with care

**When we tug at a single thing in nature,
we find it attached to the rest of the world.**
*(John Muir, American environmental activist, journalist)*

**rewild** /riːˈwʌɪld/
***verb*** restore an area of land to its natural uncultivated state. This includes the planned reintroduction of a plant or animal species that has been driven out or exterminated.

**poach** /pəʊtʃ/
***verb*** Illegally catch or kill an animal on someone else's land.

Lone wolf.

**1A** **Listen to the following story about biologist and wolf researcher Vladimir Bologov, known as Russia's "wolf man". Take notes and answer the following questions.**

1 Why are wolves at risk in Russia?
2 What tips does Bologov give to farmers who want to keep their livestock safe?
3 What are Bologov's long-term goals?

**1B** **Topic 1 is about our relationship with the animal kingdom. Do you agree or disagree with the following statements? Discuss your answers in small groups.**

If you eat meat, you can't be against hunting.

The urge to hunt is a natural human impulse.

Hunting keeps the numbers of certain animals under control.

Hunting is a threat to many species.

I don't understand why people hunt for sport.

I wouldn't feel comfortable wearing fur.

People who have an animal head on the wall or an animal skin rug should be ashamed of themselves.

## Topic 1 Text

# Man and nature

"Take only what you need," goes the Native American proverb, "and leave the land as you found it." Clearly, the conflict between exploiting wildlife and preserving it is not a new one. The following two texts look at both sides of this dilemma.

---

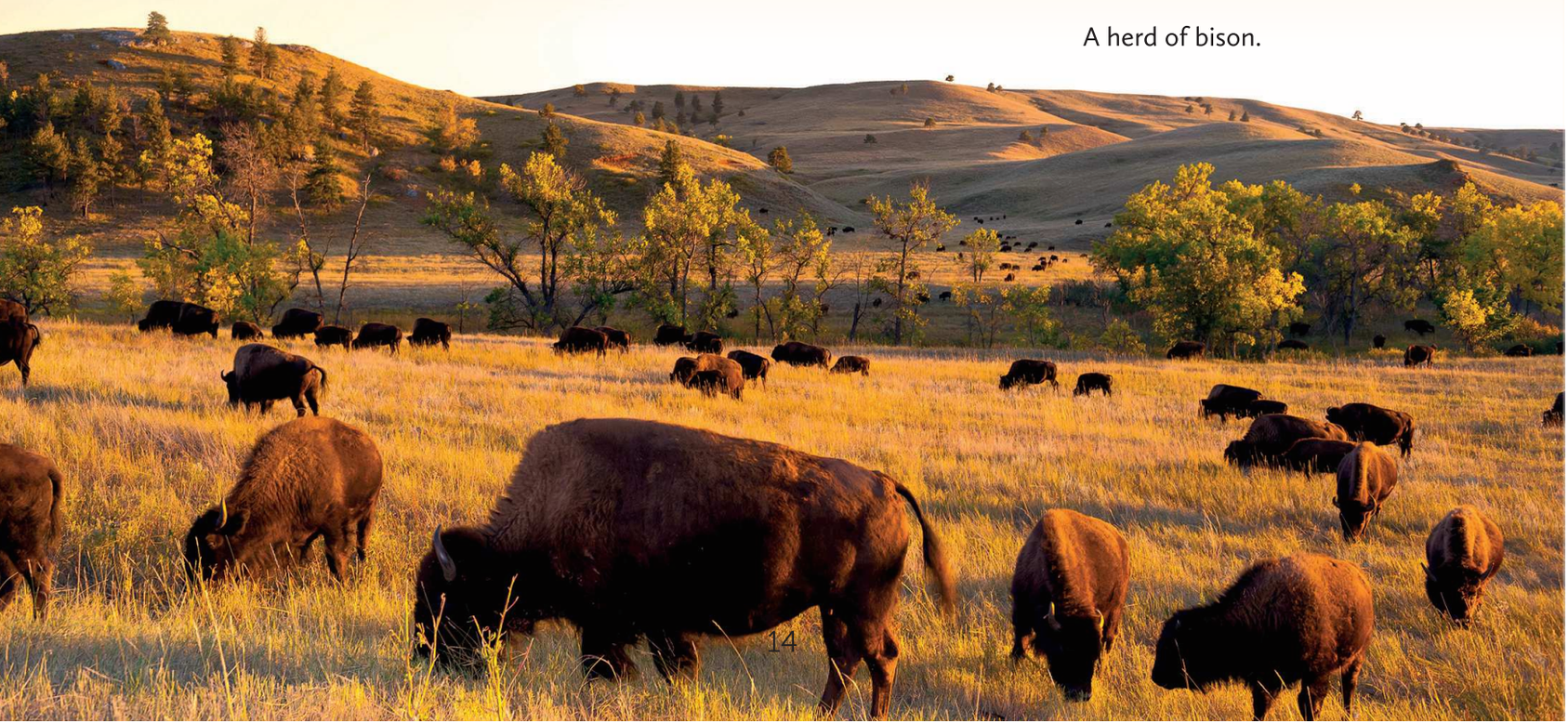
**proverb** sanonta, sananlasku
**exploit** hyödyntää, käyttää hyväkseen, riistää
**preserve** säilyttää, säilöä
**dilemma** pulma, johon useampia mahdollisia vastauksia

**INFO BOX**

### Cooperative learning

Cooperative learning means working together to achieve a common learning goal. One method is to first learn the material individually before teaching the assigned topic to your partner. Pairs are then responsible for teaching their own topic to each other.

**Work in pairs. Choose either text 1.1 or 1.2 to study independently.**



A herd of bison.

A pack of wolves.

## Text 1.1

## Personal dictionary

**1.1C** Increasing your personal vocabulary bank is one of the most important goals of learning a language. The more words you know, the more you will understand, and the better you will express yourself.

Make sure you know the following words from text 1.1. First, guess the meaning, then look them up in the vocabulary app if necessary. Write down the Finnish translations in the text vocabulary list on p. 18.

- Choose 3–5 extra words and mark them, too.
- Try making sentences with some of the words.

1 conservationist
2 roam
3 habitat
4 livestock
5 toddler
6 consent
7 reassure
8 elusive

## Text 1.1

# Rewilding

**Our natural landscapes are a pale shadow of what they once were. We've hunted the large predators to extinction, chopped down the forests, and drained the marshes. However, there are groups of conservationists eager to restore the natural world to its former glory using a controversial technique: rewilding. This means reintroducing creatures to areas where they once roamed freely, before being pushed out by humans. While the US is aiming to return wild, free-ranging bison herds to the prairies of the American west, environmentalists in the UK are hoping to see wolves make a comeback.**

### Return of the wolf

The last wolf in Britain was shot in 1680, but now a rewilding project could see them return to Scotland. Those in favour of the scheme argue that by keeping deer on the move so that they cannot overgraze fragile tree seedlings, wolves will turn grassland into forest and create habitats that hundreds of species can use. The wolf is an ideal candidate for reintroduction because there is plenty of habitat and wild prey for the animals, and, being shy by nature, they present a very low risk to people.

## Local protests

That does not stop the naysayers from protesting. Farmers are worried that the newly introduced wolves will eat their livestock, dog walkers fear for the safety of their pets and young parents fret about the risk to their toddlers. Rewilders insist no reintroduction will be attempted without widespread public consent and enthusiasm. They argue that losses to farmers can be minimised by managing livestock differently, for example not allowing sheep to roam freely. Additionally, there would be compensation schemes for the small number of possible livestock losses.

## Fighting fear

There is also a lot of work to be done to reassure the public at large. Centuries of demonisation of wolves in myths and folktales has given people a badly distorted picture of wolves. Most people know very little about wolves, but they loom large in the popular imagination. The big bad wolves of fairy tales or the raging horror-film werewolf mean that these particular canines stir deep-seated fears in many people. The truth, however, is that wolves are very wary of humans and keep their distance. People are unlikely ever to see one.

## Bringing back the magic

Elusive the newly introduced wolves may be, but enthusiasts of the project insist that knowing they are out there will help our landscapes regain some of their lost mystery and vitality.

**rewilding** /ˌriːˈwaɪldɪŋ/ alkuperäisen lajiston palauttaminen, uudelleen villiinnyttäminen
**pale** /peɪl/ kalpea, vaisu; kalveta
**predator** /predətə/ petoeläin, saalistaja
**extinction** /ɪkˈstɪŋkʃn/ sukupuutto, sukupuuttoon kuoleminen, häviäminen
**chop** /tʃɒp/ hakata, pilkkoa; lyönti, kyljys
**drain** /dreɪn/ kuivattaa, salaojittaa; rasite, viemäri
**marsh** /mɑːʃ/ suomaa
**conservationist** /ˌkɒnsəˈveɪʃənɪst/

---

**restore** /rɪˈstɔː/ palauttaa, restauroida, entisöidä
**glory** /glɔːri/ kunnia, maine, suosio, loisto; nauttia
**controversial** /ˌkɒntrəˈvɜːʃl/ kiistelty, kiistanalainen
**reintroduce** /ˌriːɪntrəˈdjuːs/ viedä takaisin, tutustuttaa uudelleen
**roam** /rəum/

---

**free-ranging** /ˌfriːˈreɪndʒɪŋ/ vapaana vaelteleva
**environmentalist** /ɪnˌvaɪərənˈmentəlɪst/ luonnonsuojelija, ympäristönsuojelija
**scheme** /skiːm/ suunnitelma; suunnitella
**overgraze** /əuvəgreɪz/ ylilaiduntaa
**fragile** /frædʒl/ hauras, heikko, haavoittuvainen, särkyvä
**seedling** /siːdlɪŋ/ taimi
**grassland** /grɑːslænd, græslænd/ ruohomaa, ruohotasanko
**habitat** /hæbɪtæt/

---

**prey** /preɪ/ saalis; saalistaa, joutua saaliiksi
**naysayer** /ˈneɪˈseɪə/ vastustaja
**livestock** /laɪvstɒk/

---

**toddler** /tɒdlə/

---

**fret** /fret/ olla levoton, harmitella; levottomuus
**insist** /ɪnˈsɪst/ vaatia, vakuuttaa, inttää
**attempt** /əˈtempt/ yritys, päällekarkaus; yrittää
**consent** /kənˈsent/

---

**enthusiasm** /ɪnˈθjuːzɪˌæzəm/ innostus, into, innokkuus
**manage** /mænɪdʒ/ hallita, onnistua, suoriutua
**compensation** /ˌkɒmpenˈseɪʃn/ korvaus, hyvitys, palkka
**reassure** /riːəʃuə/

---

**minimise** /ˈmɪnɪmaɪz/ supistaa mahd. pieneksi, vähätellä
**demonisation** /ˌdiːmənaɪˈzeɪʃn/ jonkin esittäminen pahana
**distorted** /dɪˈstɔːtɪd/ vääristynyt, vääristetty; vääristää
**loom** /luːm/ häämöttää, siintää, kuvastua; kangaspuut
**raging** /reɪdʒɪŋ/ raivopäinen
**werewolf, -wolves** /weəwulf, -wulvz/ ihmissusi
**canine** /keɪnaɪn/ koiraeläin; koira-
**stir** /stɜː/ yllyttää, kiihottaa, nousta, liikuttaa, sekoittaa; sekoittaminen, vankila
**deep-seated** /ˌdiːpˈsiːtɪd/ syvällä sijaitseva
**wary of** /weəri əv/ varovainen, epäluuloinen jnkn suhteen
**unlikely** /ʌnˈlaɪkli/ epätodennäköisesti; epätodennäköinen
**elusive** /ɪˈluːsɪv/

---

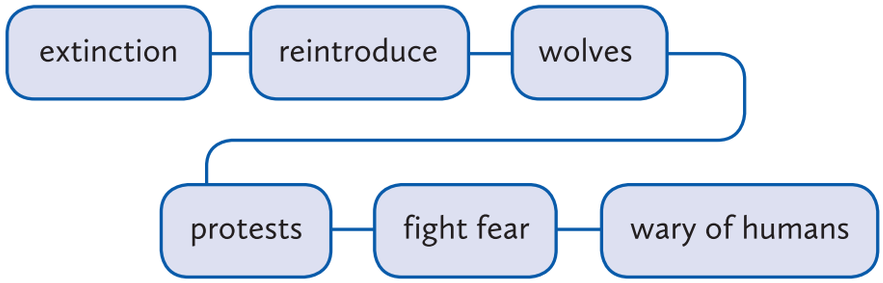
**regain** /rɪˈgeɪn/ saada takaisin
**vitality** /vaɪˈtælɪti/ elinvoima, puhti, vireys

## 1.1D After reading text 1.1, answer the questions in Finnish.

Final exam focus

1 Mitä tarkoitetaan käsitteellä ”rewilding”?
2 Miksi susia halutaan sijoittaa Skotlantiin? Mainitse kaksi syytä.
3 Mitkä ryhmät protestoivat susia vastaan ja miksi?
4 Mitä susien puolustajat ehdottavat ratkaisuksi? Mainitse kaksi asiaa.
5 Miksi susia pelätään?

## 1.1E Summarise the text in English with the help of the following vocabulary.




### Phrase hunt

## 1.1F Find the following expressions in the text.

1 olemme metsästäneet ... sukupuuttoon

_____

2 palauttaa ... entiseen loistoonsa _____

3 Ne, jotka puolustavat hanketta

_____

4 koska ovat luonteeltaan ujoja _____

5 vakuuttaa suuri yleisö _____

6 susien demonisoiminen _____

7 ne ovat voimakkaasti läsnä _____

8 nostavat pintaan syvällä olevia pelkoja

_____

9 varovaisia ihmisten suhteen _____

10 Ihmiset eivät todennäköisesti koskaan näe yhtäkään (sutta)

_____

## 1.1G Fill in the gaps with the help of the Finnish clues. Most of the expressions are from exercise 1.1C or 1.1F.

### Urban foxes

The expansion of our cities has driven some species **1** _____ (sukupuuttoon). Foxes, on the other hand, though **2** _____ (ovat varovaisia) people, have quickly adapted to the urban environment. Stories about human encounters with city foxes **3** _____ (ovat voimakkaasti läsnä) in local newspapers, and they are rarely positive. Such articles usually stir up **4** _____ (syvällä olevia pelkoja) about infectious diseases and attacks on **5** _____ (leikki-ikäiset). With **6** _____ (suuri yleisö) being fed these kinds of stories, it is not surprising that many city dwellers are **7** _____ (puolustavat, pitävät parempana) a fox cull.

However, these **8** _____ (välttelevät) animals are wily **9** _____ (luonteeltaan) and difficult to trap.

The removal of foxes from our city streets is **10** _____ _____ (ei todennäköisesti tapahdu) anytime soon. And maybe, in time, we will learn to live with them.

**Return to your partner.**

What's for dinner?

How to stop traffic.

## Text 1.2

## Personal dictionary

**1.2C** Increasing your personal vocabulary bank is one of the most important goals of learning a language. The more words you know, the more you will understand, and the better you will express yourself.

Make sure you know the following words from text 1.2. First, guess the meaning, then look them up in the vocabulary app if necessary. Write down the Finnish translations in the text vocabulary list on p. 24.

- Choose 3–5 extra words and mark them, too.
- Try making sentences with some of the words.

1 carcass
2 ivory
3 trafficker
4 kingpin
5 co-opt
6 initiative
7 incentive
8 tackle

## Text 1.2

# Poaching

**Greedy. Cruel. Heartless. This is how many of us view big game poachers. The gruesome images of bloodied rhino and elephant carcasses rotting in national parks serve only to confirm this impression. Yet, if we want to stop the illegal slaughter of these magnificent beasts, we need to understand the underlying causes.**

### Big business

The trade in elephant tusks and rhino horn is a billion-dollar business that stretches from the national parks of Africa all the way to China and southeast Asia. To the affluent middle classes, ground-up rhino horn serves as a status symbol, and they are also keen to purchase ornaments and trinkets carved out of ivory. A single rhino's horn is worth $40,000–$60,000 on the black market, while elephant tusks fetch up to $300,000. With so much money at stake, it is hardly surprising that impoverished Africans are willing to risk life imprisonment – the penalty for poachers in Kenya – in order to supply traffickers with the raw materials they are after.

Tracking poachers.

## Finding the top dogs

Most national parks in Africa have adopted a system of aerial surveillance along with boots on the ground to catch poachers. However, the problem with this approach is that rangers are only catching those at the bottom of the food chain. Poor poachers are easily replaced, and then it is back to business as usual. The focus needs to shift to those higher up in the operation, but this is difficult because these kingpins are usually associated with organised crime. Consequently, they are well protected and difficult to prosecute.

## Poachers turned gamekeeper

Another approach is to co-opt local people into the fight against poaching. One initiative that has been especially successful is to train former poachers as rangers. This means one less poacher to catch, and a ranger who possesses inside knowledge of poaching operations. When local people can make a living from protecting the animals that roam the savannah in which they live, they have less incentive to poach them.

## Cut demand

In the end, the most effective solution is to tackle market demand. Cutting demand will make poaching less profitable. In order to do this, governments in China and southeast Asia will need to do more to clamp down on the trade in illegal ivory and rhino horns. Awareness-raising campaigns are also required to persuade the citizens of those countries that these beautiful, intelligent creatures are worth more alive than dead.

**poaching** /pəutʃɪŋ/ salametsästys
**greedy** /griːdi/ ahne, himokas
**game** /geɪm/ riista, peli, leikki
**poacher** /pəutʃə/ salametsästäjä
**gruesome** /gruːsəm/ kaamea, kammottava
**carcass** /kɑːkəs/

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**rot** /rɒt/ mädäntyä, lahota; mätäneminen, lahoaminen
**confirm** /kən'fɜːm/ vahvistaa, vakuuttaa
**impression** /ɪm'preʃən/ vaikutelma, käsitys, näkemys
**illegal** /ɪ'liːgl/ laiton, luvaton
**slaughter** /slɔːtə/ teurastus, joukkomurha; teurastaa, lahdata
**magnificent** /mæg'nɪfɪsənt/ upea, mahtava, suurenmoinen
**beast** /biːst/ peto, hirviö, elukka
***underlie, underlay, underlain** /ˌʌndə'laɪ, ˌʌndə'leɪ, ˌʌndə'leɪn/ olla perustana
**trade** /treɪd/ kauppa, kaupankäynti, ammatti; käydä kauppaa, vaihtaa
**tusk** /tʌsk/ syöksyhammas
**horn** /hɔːn/ sarvi, torvi
**stretch** /stretʃ/ ulottua, venyttää; venyttely
**southeast** /ˌsauθ'iːst/ kaakko
**affluent** /æfluənt/ varakas, rikas
**ground-up** /graundʌp/ jauhettu
**keen** /kiːn/ innokas
**purchase** /pɜːtʃəs/ ostaa; ostos
**ornament** /ɔːnəmənt/ koriste, ornamentti; koristella
**trinket** /trɪŋkɪt/ koru, hely
**carve** /kɑːv/ leikata, kaivertaa, veistää
**ivory** /aɪvəri/

---

**black market** /blæk mɑːkɪt/ musta pörssi, harmaa talous
**fetch** /fetʃ/ tuottaa, saada hinta
**at stake** /æt steɪk/ vaakalaudalla
**impoverished** /ɪm'pɒvərɪʃd/ rutiköyhä, köyhtynyt
**life imprisonment** /laɪf ɪm'prɪznmənt/ elinkautinen vankeus
**penalty** /penəlti/ rangaistus
**trafficker** /træfɪkə/

---

**adopt** /ə'dɒpt/ ottaa käyttöön, omaksua, adoptoida
**top dog** /tɒp dɒg/ päätekijä, tärkeä henkilö
**aerial surveillance** /eərɪəl sɜː'veɪləns/ ilmavalvonta
**food chain** /fuːd tʃeɪn/ ravintoketju
**kingpin** /'kɪŋpɪn/

---

**organised crime** /'ɔːgənaɪzd kraɪm/ järjestäytynyt rikollisuus
**prosecute** /prɒsɪkjuːt/ syyttää, asettaa syytteeseen
**co-opt** /kəu'ɒpt/

---

**initiative** /ɪ'nɪʃətɪv/

---

**ranger** /reɪndʒə/ metsänvartija, puistonvartija
**possess** /pə'zes/ omistaa, ottaa valtaansa
**knowledge** /nɒlɪdʒ/ tieto, tiedot, tietoisuus
**roam** /rəum/ harhailla, kuljeskella, vaellella
**incentive** /ɪn'sentɪv/

---

**demand** /dɪ'mɑːnd, dɪ'mænd/ kysyntä, vaatimus; vaatia
**tackle** /tækl/

---

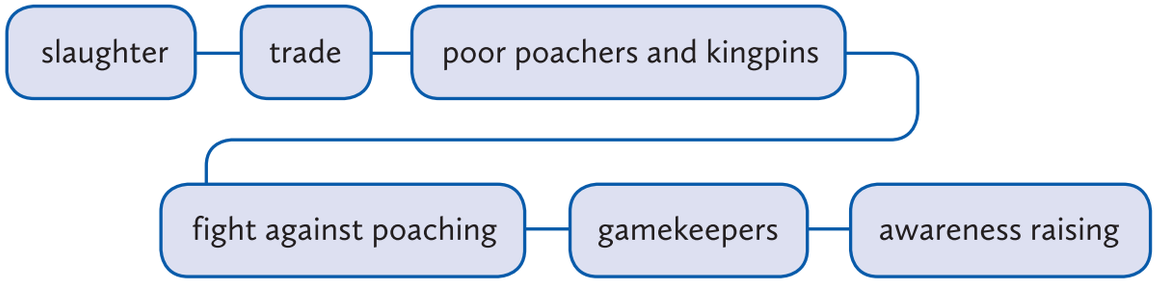
**profitable** /prɒfɪtəbl/ kannattava, tuottoisa
**clamp down** /klæmp daun/ pitää kurissa
**awareness-raising** /ə'weənɪs 'reɪzɪŋ/ tietoisuutta lisäävä
**persuade** /pə'sweɪd/ vakuuttaa, taivuttaa

## 1.2D After reading text 1.2, answer the following questions in Finnish.

Final exam focus

1 Miksi norsujen ja sarvikuonojen raatoja löytyy kansallispuistoista?
2 Millaisen rangaistuksen salametsästäjät voivat saada Keniassa?
3 Miksi salametsästyksen kitkeminen on vaikeaa?
4 Miten salametsästystä on yritetty vähentää paikallisten avulla? Mainitse kaksi asiaa.
5 Mikä on tehokkain keino salametsästyksen poistamiseksi?

## 1.2E Summarise the text in English with the help of the following vocabulary.




### Phrase hunt

## 1.2F Find the following expressions in the text.

1 taustalla olevat syyt _____
2 toimii statussymbolina _____
3 innokkaita ostamaan _____
4 mustassa pörssissä _____
5 vaakalaudalla _____
6 alimpana ravintoketjussa _____
7 Huomion täytyy siirtyä _____
8 yksi metsästäjä vähemmän kiinniotettavaksi

_____

9 sisäpiirin tieto _____
10 ovat arvokkaampia elävinä kuin kuolleina

_____

## 1.2G Fill in the gaps with the help of the Finnish clues. All of the expressions are from exercise 1.2C or 1.2F.

### Rubbish pickers

Rio de Janeiro's Gramacho waste tip is a toxic and dangerous place, yet it is home to 5,000 rubbish pickers. In Brazilian society these people are right **1** _____ (alimpana ravintoketjussa) – making a living by sifting through other people's rubbish. Because the city will **2** _____ (ostaa) copper wire, aluminium cans, and plastic, there is a clear **3** _____ (kannustin) to collect these materials.

Electronic items are often **4** _____ (arvokkaampia osina kuin) they are as single objects, so these are often disassembled. Other more precious items, such as jewellery, usually end up **5** _____ (mustaan pörssiin). Because pickers have **6** _____ (sisäpiirin tietoa) of the dump's various health hazards, they can also earn extra money by guiding city inspectors around the site.

When the city tried to **7** _____ (torjua) the health problems arising from life on the dump by closing it, there was a strong backlash. Pickers argued that their livelihood was **8** _____ (vaakalaudalla), and that the municipality's **9** _____ (huomion täytyi siirtyä) to the **10** _____ (taustalla olevat syyt) of accidents at the dump rather than take away their jobs.

**Return to your partner.**

**1H** Fill in the missing information in pairs.

| | Definition | Problem | Solution |
|---|---|---|---|
| **rewilding** | | | |
| **poaching** | | | |

**1I** Take turns retelling the text you studied in English.
Use exercises D and E to help you.

**1J** Teach the expressions in exercises C and F to your partner, who will write them down.

Scavenging from the rubbish dump.

**1K** Decide which of you is A and B. Cover the other half. Take turns translating the sentences into English.

| | A | B |
|---|---|---|
| 1 | **What do you think about rewilding an area with wolves?** | Mitä mieltä olet susien palauttamisesta jollekin alueelle? |
| 2 | Maanviljelijät pelkäävät karjansa turvallisuuden puolesta. | **Farmers fear for the safety of their livestock / cattle.** |
| 3 | **Environmentalists / Conservationists are in favour of rewilding and assure us that wolves are scared of / afraid of people.** | Luonnonsuojelijat puolustavat susien palauttamista ja vakuuttavat, että sudet pelkäävät ihmisiä. |
| 4 | Salametsästäjät antavat salakauppiaille eläimet, joita he haluavat, koska pelissä on niin paljon rahaa. | **Poachers supply traffickers with the animals that they are after / they want because there is so much money at stake.** |
| 5 | **But the focus needs to shift to catching the real criminals.** | Mutta huomion tulisi siirtyä todellisten rikollisten kiinniottamiseen. |
| 6 | Päätekijät ovat niitä, jotka ovat liittyneitä järjestäytyneeseen rikollisuuteen, ja joita on siksi vaikeaa asettaa syytteeseen. | **Kingpins are those associated with / connected to organised crime and therefore difficult to prosecute.** |

A dirty business.

**1L** Collocations. Match the words that naturally go together.

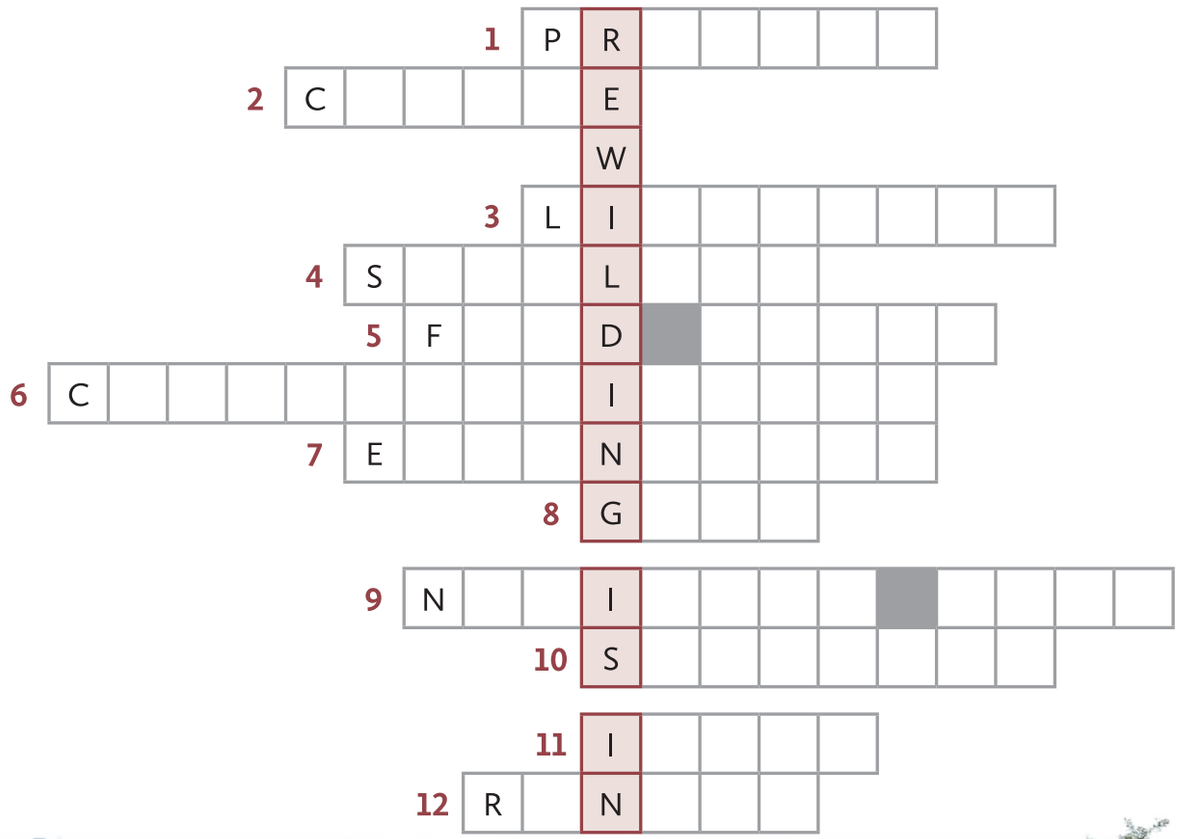
| | | | |
|---|---|---|---|
| 1 | free-range _____ | A | image |
| 2 | deep-seated _____ | B | consent |
| 3 | controversial _____ | C | fear |
| 4 | distorted _____ | D | imprisonment |
| 5 | natural _____ | E | tower |
| 6 | black _____ | F | eggs |
| 7 | affluent _____ | G | habitat |
| 8 | life _____ | H | market |
| 9 | mutual _____ | I | families |
| 10 | ivory _____ | J | issue |

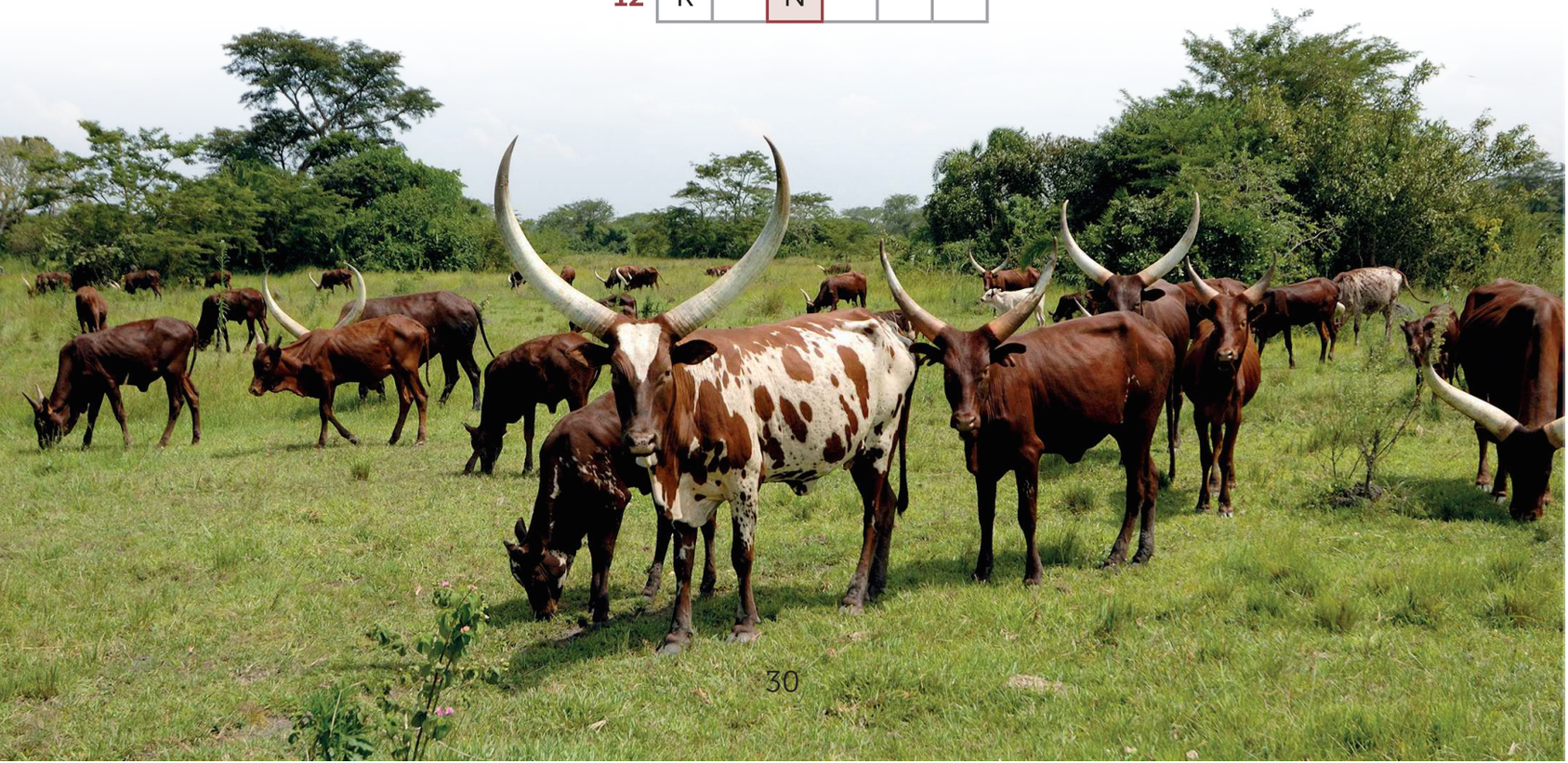
**1M** What animal am I thinking of?
Think of an animal but don't tell your partner what it is. They will ask you yes/no questions in order to find out what animal you have chosen. If they can guess after 20 questions or less, they win the game. If not, you win.

Play the game a number of times changing roles each time.

## 1N Crossword. All the words appear in the text.

1 An open area of grassland
2 A dog
3 Farm animals
4 Young plant
5 The system of what animal eats what
6 A person who wants to protect wildlife
7 Dying out
8 Wild animals hunted for sport or food
9 An area for the preservation of wildlife
10 Grassland in a hot region
11 What a tusk is made of
12 A keeper in a national park



**10** You are going to hear a story about a dog. Put the pictures in the right order according to what you hear. Then retell the story in pairs.

### The castaway canine that never gave up

Stories of lost dogs travelling long distances back to their masters are legion. Most of these incidents take place on dry land where a keen sense of smell is all a missing pooch needs to track down its lost family. But what happens when a dog is lost at sea? This is the tale of Sophie Tucker, a pet dog, washed overboard in rough seas off the Australian coast.

**1P** Choose A, B or C. Write about 150–250 words. For more information, see the online *How to write* section.

A Describe an experience of enjoying the natural environment. e.g. an African safari, a hike in the mountains, or a walk in a Finnish forest.

B Write a news item about a person meeting a bear in their backyard.

C Write a letter to the editor of a newspaper giving your opinion about a scheme to rewild parts of Finland with wolves.

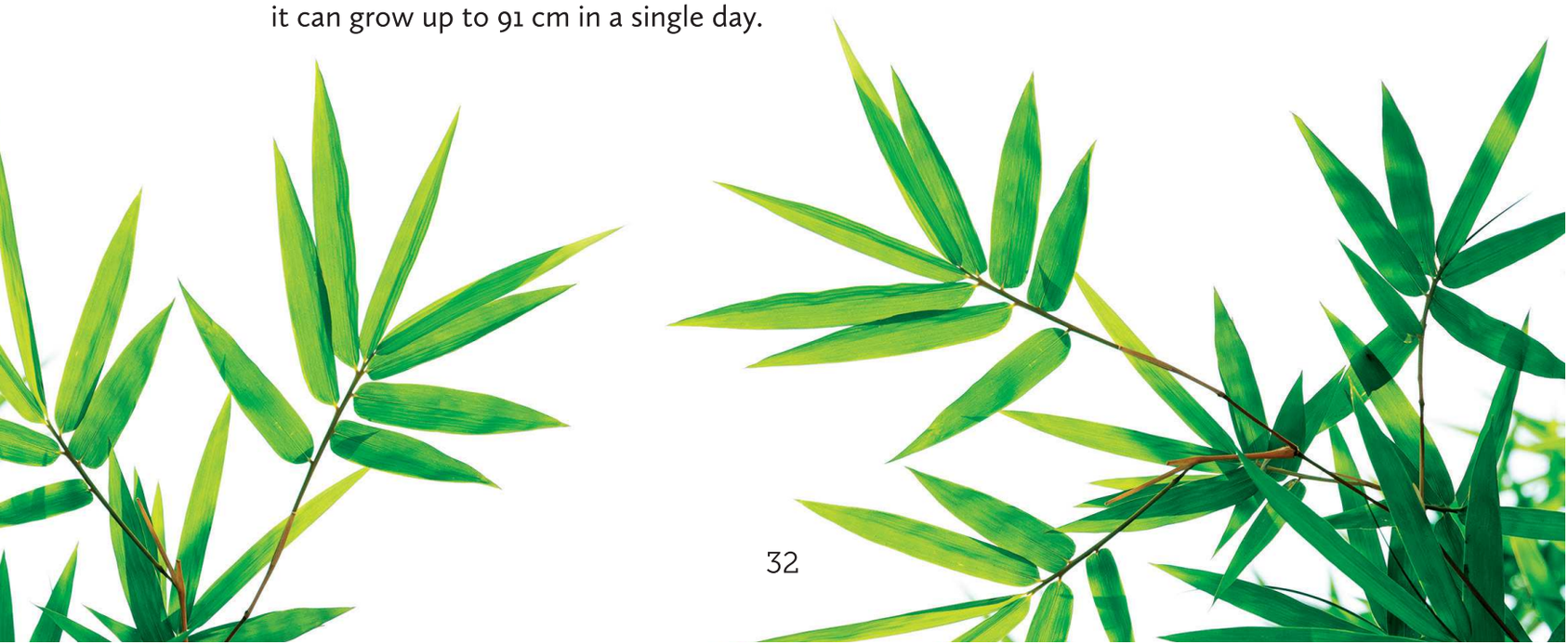
## Topic 2

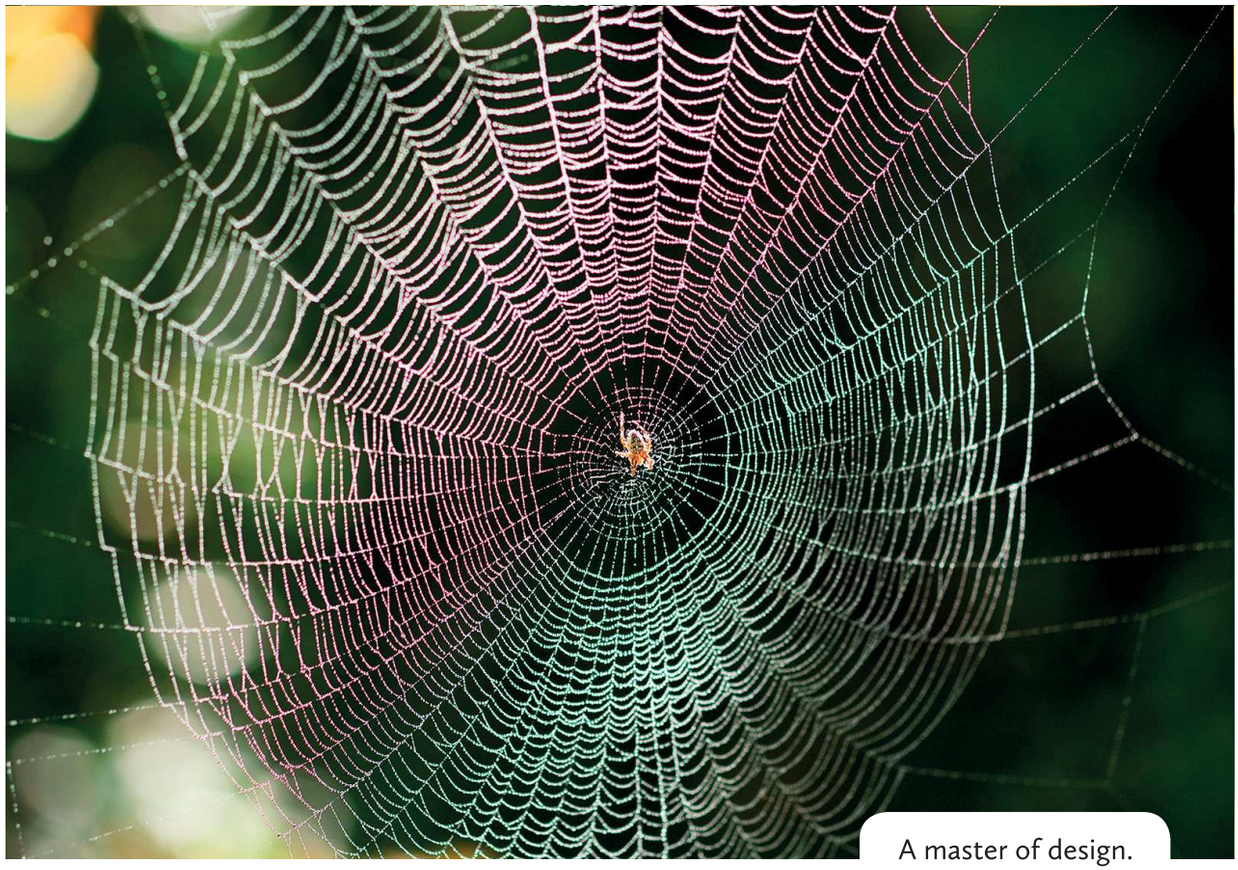
# Technology copying nature

Look deep into nature, and then you will understand everything better.
*(Albert Einstein, physicist)*

**2A** **Amazing nature. Look at the following statements. Are they true or false? Tick the boxes. Guess if you don't know.**

| | | True | False |
|---|---|---|---|
| 1 | The common housefly finds sugar with its feet, which are 10 million times more sensitive than human tongues. | ☐ | ☐ |
| 2 | Approximately 550 silkworm cocoons are needed to produce one kilo of silk. | ☐ | ☐ |
| 3 | A certain species of spider produces silk that is ten times tougher than any synthetic fibre, including Kevlar. | ☐ | ☐ |
| 4 | Honeybees typically flap their wings 24 times a second. | ☐ | ☐ |
| 5 | Elephants have a specific rumble or a warning call that means "human". | ☐ | ☐ |
| 6 | Bats are the only mammals that can fly. | ☐ | ☐ |
| 7 | 25% of all plant life is found in the ocean. | ☐ | ☐ |
| 8 | Bamboo is the fastest growing woody plant in the world, it can grow up to 91 cm in a single day. | ☐ | ☐ |





A master of design.

## Personal dictionary

**2B** **Read text 2. Find the words below in the text and underline them.**

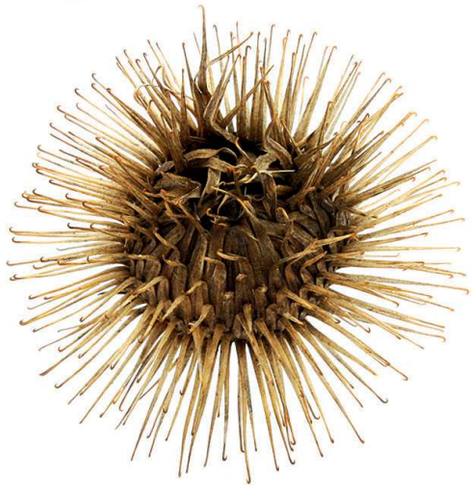
- First, guess the meaning of the words, then look them up in the vocabulary app if necessary and write them down on p. 37–38.
- Choose 3–5 extra words and mark them, too.
- Try making sentences with some of the words.

1 devise
2 resilient
3 subsequent
4 fabric
5 display
6 nocturnal
7 compress
8 debris

**Biomimetics** /baɪəmɪ'metɪks/
***noun*** the study of how to imitate nature and natural processes to create and improve products for human use. We mimic, or copy, nature.

## Topic 2 Text

# Designed by nature

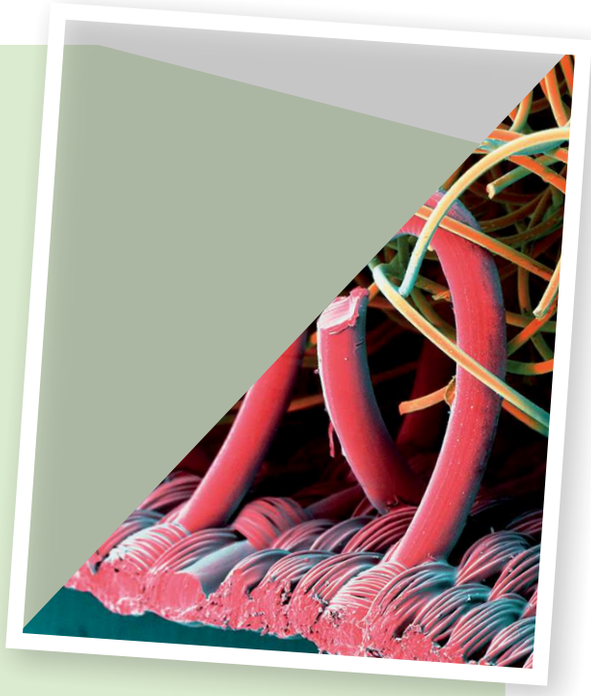


**We're not as smart as we may think. Our brightest minds can spend decades inventing and perfecting a new technology, only to discover that nature has beaten us to it. "That's when we need to man up and admit that nature simply did it better," says Dr Julian Vincent, a specialist in biomimetics (biological mimicry). Over billions of years of trial and error, nature has devised effective solutions to a range of complex problems. "Since nature's designs have stood the test of time," Dr Vincent points out, "it would be foolish not to try and copy some of them."**

### Taking a leaf out of nature's book

Take the humble leaf. For longer than we can imagine, plants have perfected the process of converting sunlight into energy. Their "solar cells" are resilient, plentiful, made of cheap materials and grow back if stripped. Compare that to human solar panels, which are delicate, costly, cumbersome, and relatively inefficient. The very best photovoltaic cells, the kind seen on many roofs, convert sunlight to electrical energy with an efficiency of around 35%. In comparison, plants accomplish the same process with about 90% efficiency during the first stage of photosynthesis.

While more efficient solar cells are being developed all the time, some of the most promising research for inexpensive, reliable energy comes from just straight-up copying leaves as closely as possible. A team at North Carolina State University have developed what is basically a gel-filled bag containing specialized chemicals and green leaves, with some chlorophyll thrown in for good measure. They have managed to coax the molecules in the gel into generating a weak electrical current, and hope to improve the admittedly low level of efficiency in subsequent designs.



Probably the most commercially successful example of biomimetics with relation to plants, is Velcro. In 1941, the Swiss inventor George de Mestral became intrigued by the way the seeds of the burdock plant stuck to his dog's fur. When investigating the seeds under a microscope, he noticed that they contained hundreds of tiny hooks that could catch on loops of hair or fabric. He developed a material based on this and called it Velcro, which is nowadays found on everything from children's trainers to astronaut suits.

## Mimicking insects

Researchers developing colour displays for e-readers took inspiration from an unlikely source: butterfly wings. The first full-colour e-reader prototype was based on the way butterfly wings gleam in bright light. The display, trademarked as Mirasol, works by reflecting light, instead of transmitting light from behind the screen the way LCD monitors do. It also requires much less energy compared to ordinary displays.

The butterfly's nocturnal cousin, the moth, has inspired another innovation. A materials firm called Autotype developed a plastic film based on the complex microstructures found in moths' eyes, which have evolved to collect the optimum amount of light without reflection. When applied to the screen of a mobile device, the film reduces reflections and improves readability. It also prolongs battery life since there is less need to illuminate the screen.

## Bugs to the rescue

One of the main reasons cockroaches can get in everywhere is because they can actually contort and flatten their bodies to fit into awkward spaces and slip through impossibly small holes. They are also able to withstand forces of around 900 times their own weight. Inspired by the cockroach, researchers Kaushik Jayaram and Robert Full at the University of California, Berkeley, have constructed what is basically a palm-sized mechanical cockroach. Called CRAM, it can compress itself by more than half its size to fit through narrow spaces, aided by a low-friction shell.

"CRAM has clear applications in disaster response, in which it might carry a data collection device into the debris of a fallen building to hunt for survivors," the researchers said. CRAM isn't currently outfitted with cameras or live video feed to carry out reconnaissance, but Kaushik Jayaram is reportedly working on that. Future search-and-rescue missions in collapsed buildings or confined underground spaces may well be conducted by a team of robotic cockroaches.

Biomimetics has been around for at least half a century, but the development of nanotechnology has broadened the horizon of all scientists involved in this discipline. Dr Vincent is optimistic about the future of biomimetics. "In this field, the sky is the limit!" he says.

**decade** /dekeɪd/ vuosikymmen
**perfect** /pɜːfɪkt/ kehittää, parantaa, viimeistellä; täydellinen
**man up** /mæn ʌp/ rohkaistua
**admit** /ədˈmɪt/ myöntää, tunnustaa
**biomimetics** /ˌbaɪəumɪˈmetɪks/ biomimetiikka, bioniikka
**trial and error** /traɪəl ənd erə/ yritys ja erehdys
**devise** /dɪˈvaɪz/

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**solution** /səˈluːʃn/ ratkaisu
**design** /dɪˈzaɪn/ suunnitelma, malli, luonnos, rakenne; suunnitella, muotoilla, piirtää
***stand the test of time** /stænd ðə test əv taɪm/ kestää aikaa
***take a leaf out of someone's book** /teɪk ə liːf aut əv sʌmwʌnz buk/ ottaa jostakin oppia, seurata jonkin esimerkkiä
**humble** /hʌmbl/ vähäinen, vähäpätöinen, vaatimaton, nöyrä
**convert** /kɒnˈvɜːt/ muuttaa, muuntaa, käännyttää; käännynnäinen
**solar cell** /səulə sel/ aurinkokenno
**resilient** /rɪˈzɪliənt/

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**strip** /strɪp/ repiä irti, poistaa, riisua; suikale, kaistale, sarjakuva
**solar panel** /səulə pænl/ aurinkopaneeli
**delicate** /delɪkɪt/ hauras, herkkä, arkaluontoinen
**costly** /kɒstli/ kallis, hinnakas
**cumbersome** /kʌmbəsəm/ hankalakäyttöinen, vaivalloinen
**inefficient** /ˌɪnɪˈfɪʃnt/ tehoton
**photovoltaic cell** /ˌfəutəuvəlˈteɪk/ valokenno
**efficiency** /ɪˈfɪʃənsi/ tehokkuus, suorituskyky
**photosynthesis** /ˌfəutəuˈsɪθəsɪs/ yhteyttäminen, fotosynteesi
**promising** /prɒmɪsɪŋ/ lupaava
**inexpensive** /ˌɪnɪkˈspensɪv/ halpa
**gel-filled** /dʒel fɪld/ geelillä täytetty
**chlorophyll** /klɒrəfɪl/ lehtivihreä
**for good measure** /fə gud meʒə/ kaupan-päällisiksi, varmuuden vuoksi
**coax** /kəuks/ saada johonkin, suostutella, houkutella
**electrical current** /ɪˈlektrɪkl kʌrənt/ sähkövirta
**generate** /ˈdʒenəreɪt/ luoda, tuottaa, saada aikaan
**admittedly** /ədˈmɪtɪdli/ kieltämättä, eittämättä
**subsequent** /sʌbsɪkwənt/

---

**with relation to** /wɪð rɪˈleɪʃn tə/ jonkin suhteen, johonkin liittyen
**Swiss** /swɪs/ sveitsiläinen
***become intrigued** /bɪˈkʌm ɪntriːgd/ kiehtoa, kiinnostua jostakin
**burdock** /bɜːdɒk/ takiainen
**loop** /luːp/ silmukka, kierukka; kiertää
**fabric** /fæbrɪk/

---

**mimic** /mɪmɪk/ matkia, jäljitellä; matkija, jäljittelijä
**display** /dɪˈspleɪ/

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***take inspiration from** /teɪk ˌɪnspɪˈreɪʃn frɒm/ ottaa mallia, ottaa vaikutteita, innoittaa
**gleam** /gliːm/ loistaa, hehkua; loisto, hohto, kiilto
**trademark** /treɪdmɑːk/ rekisteröidä tuote-merkiksi; tuotemerkki
**reflect** /rɪˈflekt/ heijastaa, kuvastaa, pohdiskella
**transmit** /trænzˈmɪt/ lähettää, välittää, siirtää
**LCD monitor** /ˌel siː ˈdiː mɒnɪtə/ nestekidenäyttö
**nocturnal** /nɒkˈtɜːnl/

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**moth** /mɒθ/ yöperhonen
**plastic film** /plæstɪk fɪlm/ muovikalvo
**evolve** /ɪˈvɒlv/ kehittyä
**optimum** /ɒptɪməm/ optimaalinen, paras mahdollinen; ihannetila
**reflection** /rɪˈflekʃn/ heijastus, heijastuma
**apply to** /əˈplaɪ tə/ asettaa, levittää, soveltaa, päteä, hakea (paikkaa)
**improve** /ɪmˈpruːv/ parantaa
**prolong** /prəlɒŋ/ pidentää, pitkittää
**readability** /ˌriːdəˈbɪləti/ luettavuus
**illuminate** /ɪˈluːmɪneɪt/ valaista, selventää
**cockroach** /kɒkrəutʃ/ torakka
**contort** /kənˈtɔːt/ vääntää vääräksi, väännellä →

**flatten** /flætn/ litistää
**awkward** /ɔːkwəd/ hankala, kiusallinen
**slip through** /slɪp θruː/ pujahtaa läpi, livahtaa
***withstand, withstood, withstood** /wɪð'stænd, -'stud, -'stud/ kestää, sietää, pitää puoliaan, vastustaa
**construct** /kən'strʌkt/ rakentaa, laatia, suunnitella; käsite
**palm-sized** /pɑːmsaɪzd/ kämmenen kokoinen
**compress** /kəm'pres; kɒmpres/

---

**friction** /frɪkʃn/ kitka
**application** /ˌæpli'keɪʃn/ sovellus
**device** /dɪ'vaɪs/ laite, suunnitelma, juoni
**debris** /debriː/

---

**currently** /kʌrəntli/ tällä hetkellä, nykyään
**outfit with** /autfɪt wɪð/ varustaa
**reconnaissance** /rɪ'kɒnɪsns/ tiedustelu
**search-and-rescue** /sɜːtʃ ənd reskjuː/ etsintä ja pelastus-
**mission** /mɪʃn/ tehtävä, kutsumus
**collapsed** /kə'læpst/ romahtanut, sortunut
**confined** /kən'faɪnd/ ahdas, rajoitettu
**broaden the horizon** /brɔːdn ðə hə'raɪzn/ laajentaa näkemystä
**the sky is the limit** /ðə skaɪ ɪz ðə lɪmɪt/ vain taivas on rajana

## 2C Fill in the grid with information from text 2 in Finnish. The first two have been done for you.

| Tuote | Eläin tai kasvi, jota kopioitu | Tuotteen tarkoitus | Ominaisuus, jota kopioitu luonnosta |
|---|---|---|---|
| **gel-filled bag** | vihreät lehdet | halpa ja luotettava aurinkopaneeli | |
| **Velcro** | | | |
| **Mirasol** | | | |
| **Autotype** | | | |
| **CRAM** | | | |

**2D** **Role play. In pairs, decide which one of you is A and B. A interviews an expert about one of the inventions mentioned in text 2. B is an expert in biomimetics.**

- Form questions with *Who? Where? What? How? Why?*
- Exercise 2C will help you.
- Change roles after the first interview.
- If you don't know the answer to a question, make one up.

Example:

A: Good afternoon, Doctor Jones. I would like to know more about the product called Velcro. Who actually invented it?

B: This is such a fascinating story. The product was invented by...

HOW TO

## Interviews

Here are a few tips for conducting a successful interview.

- Research the subject and prepare some questions beforehand. You don't have to stick to the questions, but it's good to have them ready.
- Greet the interviewee by name, and say something about the person. This way listeners know who is being interviewed, and why. e.g. *Good morning, Professor Jacobs. You're working on ways to improve the air quality in Mumbai.*
- Ask open-ended questions that can't be answered with a simple 'yes' or 'no'. e.g. *How did you get started with this line of research?*
- Listen carefully to what the interviewee is saying and ask them follow-up questions if something is interesting. e.g. *I'd like to ask a little more about the accident you mentioned.*
- Ask "stupid questions". If something is not clear to you, it is probably not clear for other people, either. e.g. *What do you mean by 'particulates', exactly?*
- Ask a short question and then a follow-up question e.g. *How about other cities? Are you going to run the same scheme in other cities across India?*
- Ask questions that invite an emotional response *e.g. What motivates you to do this work? How do you feel about the situation?*
- Be a good listener. You should not be talking more than 10–20% of the time.
- At the end of the interview, thank your interviewee and remind the audience who they have been listening to. e.g. *Professor Jacobs, thank you very much for your time.*

## Phrase hunt

**2E** **Find the following expressions in the text.**

1 Yli miljardeja vuosia kestäneen yrityksen ja erehdyksen avulla

_____

2 ovat kestäneet aikaa _____

3 tehokkaampia aurinkokennoja kehitetään

_____

4 mahdollisimman tarkasti _____

5 Tutkijat ... ottivat mallia

_____

6 vaatii paljon vähemmän energiaa verrattuna

_____

7 kalvo vähentää heijastuksia ja parantaa luettavuutta

_____

8 ainakin puoli vuosisataa _____

INFO BOX

### Really big numbers

Earlier there was a difference in British and American English regarding really large numbers. Now both varieties of English use the same terms.

a billion = a thousand million (1,000,000,000) (suom. miljardi)
a trillion = a million million (1,000,000,000,000) (suom. biljoona)
a zillion or gazillion = a made-up number signifying a huge amount

With really large numbers it is also possible to say *ten to the power of*

e.g. $10^6$ is expressed as ten to the power of six.
(It is 1,000,000 or a million.)

e.g. $10^{20}$ is expressed as ten to the power of twenty.
(It is 100,000,000,000,000,000,000.)

**2F** **Fill in the gaps with the help of the Finnish clues. Look at the expressions in exercise 2E for help.**

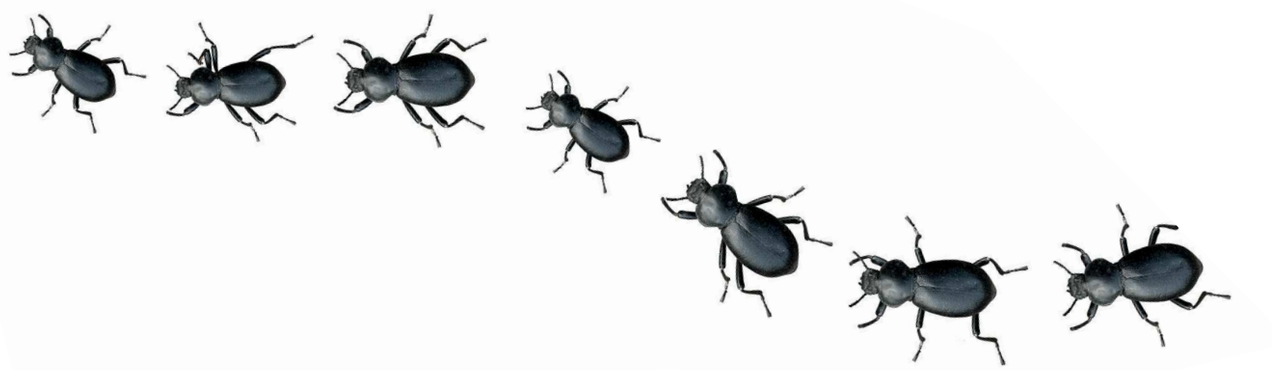
### The year 2070. At a NASA meeting.

Dr Neels: As you know, **1** _____ (tehokkaampia aurinkokennoja) are being developed as we speak. These will enable us to stay on board Apollo 2050 for much, much longer. But those cells need to be cleaned. My swarm of space bugs can do that. They require much less energy **2** _____ (verrattuna) a human in a spacesuit doing the same job.

Ms Arju: Space bugs? Are you kidding me?

Dr Neels: Over billions of years of **3** _____ (yritys ja erehdys) insects have developed a perfect way of drilling, cutting, building and so on. The designs of my little space robots mimic the behaviour of insects **4** _____ (mahdollisimman tarkasti). They are perfectly suited for this type of work in zero gravity conditions.

Ms Arju: All I'm saying is that humans in spacesuits **5** _____ _____ (ovat kestäneet aikaa). Sure, the suits may look a bit different nowadays, we've added a film **6** _____ _____ (joka vähentää heijastuksia) to the visor and so on, but **7** _____ _____ (ainakin puoli vuosisataa) the basics of maintaining a space station have remained the same. We need humans who can think up there, not space bugs!



## 2G Shortened sentences. In pairs, decide which one of you is A and B. For more help, see the grammar section p. 199.

Student A: Translate sentences 1–3 into Finnish and check your partner's translations for sentences 4–6.
Student B: Turn to page 193.

### A's sentences

1 When investigating the seeds under a microscope, the Swiss inventor noticed that they had tiny hooks.
2 Researchers developing colour displays took inspiration from an unlikely source: butterfly wings.
3 The complex microstructures found in moths' eyes collect the optimum amount of light without reflection.

### B's sentences:

4 Asettamalla muovikalvo mobiililaitteen näytölle parannetaan tekstin luettavuutta. / Kun muovikalvo laitetaan mobiililaitteen näytölle, se parantaa tekstin luettavuutta.
5 Ottamalla mallia hyönteisestä tutkijat ovat rakentaneet robottitorakan. / Tutkijat ovat ottaneet mallia hyönteisestä ja rakentaneet robottitorakan.
6 Kaikki tutkijat, jotka ovat mukana biomimetiikassa / osallistuvat biomimetiikkaan tulevat hyötymään nanoteknologian kehityksestä.

## 2H Choose the correct word for each sentence.

1 Nature has **devised** / **contorted** / **compared** effective solutions to many complex problems over time.
2 Plants have **generated** / **perfected** / **prolonged** the process of converting sunlight into energy.
3 Biomimetics can help **improve** / **coax** / **reduce** products for human use.
4 More efficient ways to produce solar energy are being **transmitted** / **developed** / **conducted** all the time.
5 Plant and animal species have **converted** / **investigated** / **inspired** many modern inventions.
6 The idea for Velcro is **trademarked as** / **involved in** / **based on** the adhesive quality of the burdock plant.
7 For example, **constructing** / **evolving** / **mimicking** insects has enabled us to create a variety of products ranging from colour displays for e-readers to robotic cockroaches.

**2I** Fill in the grid with the missing adjectives, Finnish translations, synonyms and antonyms (opposites) from the green box below. The first one has been done for you.

| | Adjective | Finnish translation | Synonym | Antonym |
|---|---|---|---|---|
| 1 | humble | vaatimaton | modest | arrogant |
| 2 | resilient | joustava | | |
| 3 | plentiful | | abundant | |
| 4 | | halpa | cheap | |
| 5 | practical | | | cumbersome |
| 6 | | | next | previous |
| 7 | ordinary | | common | |
| 8 | awkward | hankala | | |
| 9 | | ahdas, rajoitettu | restricted | |
| 10 | narrow | | | broad |

| Finnish translation | Adjective / Synonym | Antonym |
|---|---|---|
| ~~vaatimaton~~ | tight | open |
| kapea, ahdas | confined | comfortable |
| seuraava | subsequent | costly |
| runsas | inconvenient | stiff |
| tavallinen | handy | ~~arrogant~~ |
| käytännöllinen | inexpensive | exceptional |
| | flexible | scarce |

**2J** Write five sentences using adjectives from exercise 2I. In pairs, take turns reading the sentences aloud.

Example

**Subsequent** studies offered more evidence of the **common** bacteria.

## 2K Choose the correct preposition.

### A love of spiders

Australian Amy Cohn is an arachnologist, a specialist **1** **of** / **with** / **in** spiders. Her latest book, *Living with spiders*, is more autobiographical than scientific, and based **2** **on** / **in** / **of** her childhood adventures with spiders. "As a child, I was always hunting **3** **for** / **–** / **with** spiders in our garden in Sydney. Instead **4** **at** / **–** / **of** running away from the things, I would run towards them. I was intrigued **5** **on** / **by** / **after** them. Eight eyes! Eight legs! Webs! I caught many, and since even the biggest spider could easily fit **6** **with** / **–** / **into** my hand, I'd carry them home to show my mum." Amy was lucky not to have caught a funnel-web spider. Found **7** **in** / **by** / **over** and around Sydney, the Sydney funnel-web it is one of the deadliest spiders in the world. Compared **8** **by** / **–** / **to** the huge tarantulas, the Sydney funnel-web spider is relatively small, but it has a vicious bite. In fact, its fangs are so sharp it can bite right through your shoe.

A Sydney funnel-web spider.

## FINAL EXAM FOCUS

Ylioppilaskokeessa testataan englannin kielen kuullunymmärtämistä erityyppisillä tehtävillä, joita harjoitellaan On Track 7 -kurssilla. Tehtävät on merkitty *Final exam focus* -logolla.

Tehtävässä 2L harjoitellaan kuullunymmärtämisen avoimia kysymyksiä. Lue aina ensin kysymykset huolellisesti. Kun kuuntelet, keskity kokonaisuuteen eikä yksittäisiin outoihin sanoihin. Vastaa selkeästi siihen mitä kysytään. Käytä mahdollisimman hyvää kieltä.

**2L** Listen to the following talk about what scientists and researchers have learnt from wasps and lobsters. Answer the questions in Finnish.

Final exam focus

Before listening take a look at the following words.

**drill** porata; pora
**horntail wasp** puupistiäinen
**lobster** hummeri
**X-ray** röntgen

Horntail wasp drilling.

### Wasps know the drill

1 Mitä puupistiäisen poraustekniikasta kerrotaan?
2 Miten tutkijoiden kehittämää poraa voidaan käyttää? (2 asiaa)
3 Mitä tutkijat ovat tehneet ja miksi?
4 Miltä uusi laite näyttää ja missä sitä voidaan käyttää hyödyksi?

**2M** Work in pairs or small groups. Choose one of the items from the list below. Go online and find more information on how the plant or animal has been copied in biomimetics. Take turns presenting your findings to your group.

- lotus plants
- gecko
- desert beetles
- a dog's nose

## Topic 3

# Animals are not ours

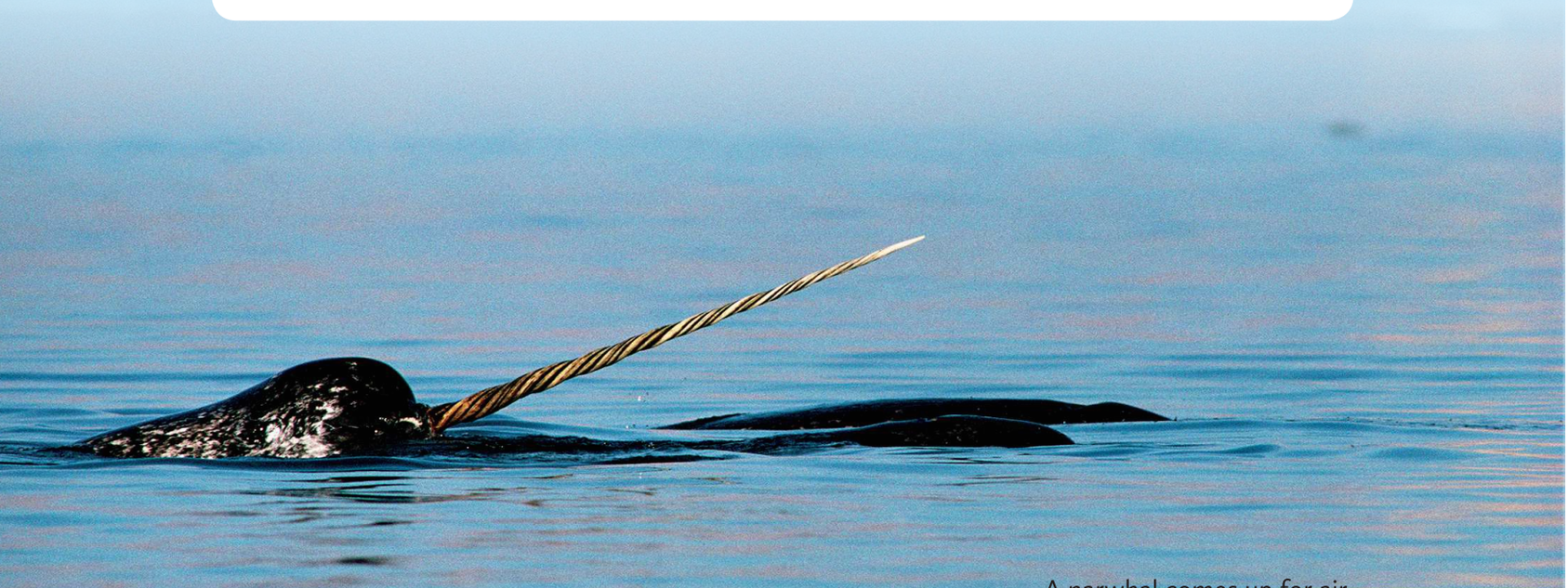
You can judge a man's true character by the way he treats his fellow animals.
*(Paul McCartney, musician)*

**3A** **Practise the pronunciation of the following animal categories. Match them with their Finnish translations.**

| | | | | |
|---|---|---|---|---|
| 1 | invertebrate _____ | A | kädellinen | _____ |
| 2 | mammal _____ | B | jyrsijä | _____ |
| 3 | primate _____ | C | selkärangaton | _____ |
| 4 | rodent _____ | D | nisäkäs | _____ |
| 5 | amphibian _____ | E | matelija | _____ |
| 6 | reptile _____ | F | pussieläin | _____ |
| 7 | marsupial _____ | G | sammakkoeläin | _____ |

**Can you sort the animal species into the following categories?**

viper slug chimpanzee guinea pig kangaroo narwhal toad



A narwhal comes up for air.

**3B** **Here is an introduction to a text you are going to read. In pairs, answer the questions before reading the text.**

As part of a research study Professor Cook decides to raise a baby chimpanzee, Fern, alongside his two children.

- How do you feel about this idea? What do you think about raising a wild animal as part of a family? Is a chimpanzee different from other wild animals in this respect?

Unfortunately, when the chimp misbehaves it is taken away from the family and given to a research laboratory.

- What do you think about using animals for testing in laboratories? What kind of products are tested on animals? Do you use any of them?

Years later, one of Professor Cook's children, Lowell, tracks Fern down and breaks into the lab hoping to free her. In this extract he is telling his younger sister what happened on that night.

- What do you think is going to happen?

## Personal dictionary

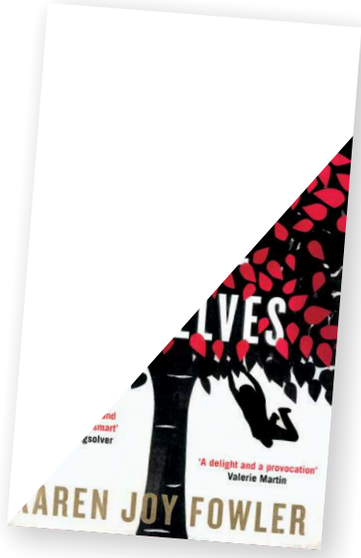
**3C** **Read text 3. Find the words below in the text and underline them.**

- First, guess the meaning of the words, then look them up in the vocabulary app if necessary and write them down on p. 50.
- Choose 3–5 extra words and mark them, too.
- Try making sentences with some of the words.

1 solid
2 eerie
3 agitated
4 flash
5 bounce
6 echo
7 concrete
8 threaten

## Topic 3 Text

# We are all completely beside ourselves




I recognized Fern right away, he said, but not because I actually recognized her in the dim light, just because she was the youngest and the smallest.

She was in a cage with four large adults. I don't think I'd ever realized how different one chimp looks from another. Her hair was redder than most, and her ears were set higher, more like teddy bear ears. All very easy to figure out, all very logical even though she'd changed quite a bit. Solid and squat where she used to be so graceful. But she was eerie in the way she recognized me. It was as if she felt me coming. I remember thinking Daddy should do a study on chimp precognition.

I was walking across the basement towards the cages and she hadn't even turned in my direction when I saw her go rigid. Her hair started to rise and she made these *oo oo* sounds she makes when she gets agitated. Then she spun round and leapt for the bars of the cage. She was shaking them and swinging back and forth, by then she was looking right at me. By then she was screaming at me.

I ran toward her and when I got close enough she reached through, grabbed my arm, and pulled me so hard she slammed me into the bars. I hit my head and things went a bit sideways for me. Fern had my hand inside the cage, inside her mouth, but she hadn't bitten me yet. I think she couldn't decide if she was happy to see me or more angry. It was the first time in my life I had ever been frightened of her.

I tried to pull my hand back, but she wouldn't let go. I could smell the excitement on her, a smell sort of like burned hair. She hadn't had a bubble bath in a long time or a good tooth-brushing. She kind of stank, to be honest.

I started talking to her, telling her I was sorry, telling her I loved her. But she was still screaming, so I know she didn't hear. And she was squeezing my fingers so hard there were flashes going off like popguns in my eyeballs, and it was all I could do to keep my voice calm and quiet.

By now, she'd gotten the other chimps pretty worked up. Another one, a big male and fully erect, came and tried to take my hand from her, but she wouldn't let go. So he grabbed my other arm, and then they were both pulling on me, and between them they bounced me repeatedly against the bars. I hit my nose, my forehead, the side of my face. Fern was still holding my hand, but not in her mouth anymore. She turned and bit the male chimp on his shoulder. She really clamped down. More screaming coming from all the cages, echoing off the concrete walls. It was like a mosh pit in there. A really dangerous mosh pit.

The big guy dropped my arm and backed away with his mouth wide open, showing his canines, I swear they looked like shark teeth. He was standing straight, his hair, like hers, all up. He was trying to threaten her, but she wasn't paying any attention. She was signing with her one free hand to me. My name, her fingers in the L with that slap against her chest, and then good, good Fern. Fern is a good girl. Please take me home now. I'll be good. I promise I'll be good.

The big chimp came crashing from behind and Fern couldn't defend herself and hold on to me at the same time. So she didn't defend herself. He opened these long, bloody wounds on her back with his feet. And all the time, she was still screaming, all the chimps were screaming, and I could smell blood and fury and terror, all that acrid copper and musky sweat and ripe feces, and my head was spinning with the blows I'd taken. And still she wouldn't let go.

By now people had arrived, two of them, both men, running down the stairs, shouting at me.

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Rally driver and co-driver.

**research** /rɪˈsɜːtʃ/ tutkimus
**misbehave** /ˌmɪsbɪˈheɪv/ käyttäytyä huonosti
**track down** /træk daun/ etsiä käsiinsä
**recognize** /rekəgnaɪz/ tunnistaa, tunnustaa
**dim** /dɪm/ hämärä
**cage** /keɪdʒ/ häkki; vangita häkkiin
**realize** /riːəlaɪz/ tajuta, ymmärtää
**solid** /sɒlɪd/

---

**squat** /skwɒt/ kyyhöttävä, kyyristynyt; kyykky; kyykistyä, vallata
**graceful** /greɪsful/ siro, suloinen, viehättävä
**eerie** /ɪəri/

---

**precognition** /prɪkɒgˈnɪʃən/ ennalta tietäminen, prekognitio
**basement** /beɪsmənt/ pohjakerros, kellarikerros
***go rigid** /gəu rɪdʒɪd/ jäykistyä, kangistua
**agitated** /ædʒɪteɪtɪd/

---

***spin, span, spun** /spɪn, spæn, spʌn/ pyörähtää, kiepahtaa, punoa, kehrätä
***leap, leapt, leapt** /liːp, lept, lept/ hypähtää, loikata, harpata
**bars** /bɑːz/ kalterit, ristikko
***swing, swung, swung** /swɪŋ, swʌŋ, swʌŋ/ keinua, keinahdella, kieppua
**back and forth** /bæk ənd fɔːθ/ edes takaisin
**grab** /græb/ tarttua, käydä kiinni, kouraista
**slam** /slæm/ paiskata, läimäyttää
***go sideways** /gəu saɪdweɪz/ mennä pieleen
***bite, bit, bitten** /baɪt, bɪt, bɪtn/ purra
**excitement** /ɪkˈsaɪtmənt/ jännitys
***stink, stank, stunk** /stɪŋk, stæŋk, stʌŋk/ haista
**squeeze** /skwiːz/ puristaa
**flash** /flæʃ/

---

**popgun** /pɒpgʌn/ korkkipyssy
**eyeball** /aɪbɔːl/ silmämuna
***get worked up** /get wɜːkt ʌp/ kiihtyä, hermostua
**male** /meɪl/ uros, koiras
**erect** /ɪˈrekt/ pystyasennossa, pysty, suora; pystyttää, rakentaa
**bounce** /bauns/

---

**repeatedly** /rɪˈpiːtɪdli/ toistuvasti
**forehead** /fɒrɪd, fɔːhed/ otsa
**clamp down** /klæmp daun/ tulla ankarammaksi, kiristää valvontaa
**echo** /ekəu/

---

**concrete** /ˈkɒŋkriːt/

---

**mosh pit** /mɒʃ pɪt/ metalliyhtyeiden konserteissa oleva tila, mosh pit
**back away** /bæk əˈweɪ/ perääntyä
**canines** /keɪnaɪns/ kulmahampaat
***swear, swore, sworn** /sweə, swɔː, swɔːn/ vannoa, kirota
**threaten** /θretn/

---

***pay attention** /peɪ əˈtenʃn/ kiinnittää huomiota
**sign** /saɪn/ viittoilla; viittoma, (tien)viitta
**slap** /slæp/ isku, lyönti: läimäyttää, iskeä
**chest** /tʃest/ rintakehä, rinta; arkku
**crash** /kræʃ/ syöksyä, romahtaa, rysähtää, syöstä
**defend** /dɪˈfend/ puolustaa, puolustautua
***hold on to** /həuld ɒn tə/ pitää kiinni jstak
**bloody** /blʌdi/ verinen, kirottu
**wound** /wuːnd/ haava
**fury** /fjuəri/ raivo
**acrid** /ækrɪd/ katkera, kitkerä, karvas, pureva
**copper** /kɒpə/ kupari, kuparinruskea, kupariraha
**musky** /mʌski/ myskinhajuinen
**ripe** /raɪp/ voimakas, kypsynyt, kehittynyt, kypsä
**feces** /fiːsiːz/ ulosteet
**blow** /bləu/ lyönti, isku; lyödä

## 3D Are the following statements true or false? Correct the false ones.

| | | True | False |
|---|---|---|---|
| 1 | Lowell recognized Fern immediately because the room was well lit. | ☐ | ☐ |
| 2 | Fern recognized Lowell from his voice. | ☐ | ☐ |
| 3 | Fern did not show any feelings when she noticed Lowell. | ☐ | ☐ |
| 4 | Lowell lost consciousness when his head hit the bars. | ☐ | ☐ |
| 5 | Lowell tried to calm Fern down by talking to her. | ☐ | ☐ |
| 6 | The male chimp tried to free Fern from Lowell's grip. | ☐ | ☐ |
| 7 | Fern ignored the other chimps. | ☐ | ☐ |
| 8 | Fern was so hurt she did not even try to communicate with Lowell. | ☐ | ☐ |

## 3E Work in pairs and discuss the following questions.

1. How does Fern react when Lowell approaches the cages?
2. How does Fern react when Lowell is getting closer to the cage?
3. How would you describe the reunion between Lowell and Fern?
4. How does Fern react to Lowell's voice?
5. How does Fern communicate with Lowell?

### Phrase hunt

## 3F Find the following phrases in the text.

1. kuinka simpanssit eroavat toinen toisistaan _____
2. mistä se ennen oli siro _____
3. ikäänkuin se olisi tuntenut _____
4. tutkimus jostakin _____
5. keinuen edestakaisin _____
6. hän kirkui minulle _____
7. hän ei päästänyt irti _____
8. tuli rynnäten takaa _____

INFO BOX

## Handy collocations

In English there are many three-word collocations joined by the conjunction "and".
Examples: back and forth, now and then, supply and demand

Since they are often used in spoken English, you can make your conversation sound more natural by using them.

N.B. The word order in Finnish is sometimes different.
Examples: edestakaisin, kysyntä ja tarjonta

### 3G Fill in the gaps in the sentences below. The second part of the collocation is missing.

miss bustle downs gloom sound wide tired quiet run error

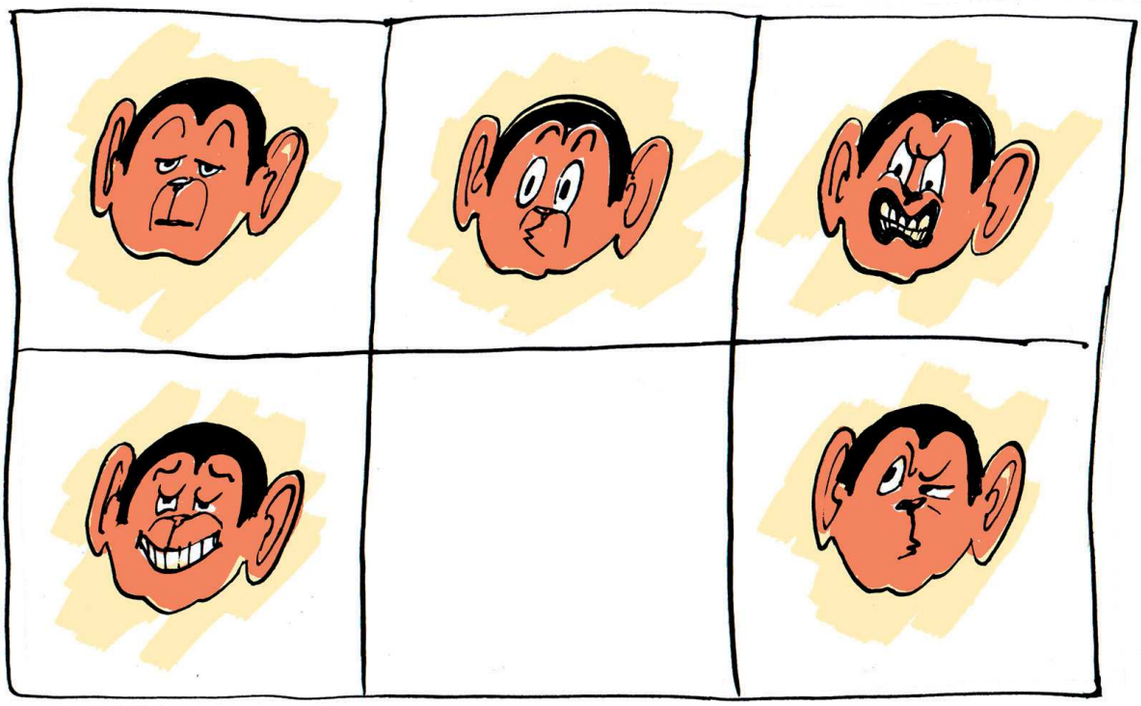
1 It was a difficult drive, but we arrived at the hotel safe and _____.
2 I don't like the countryside. I prefer the hustle and _____ of city life.
3 He never reads the instructions. He found out how the GPS worked through trial and _____.
4 Don't ask him about the future of this planet, he's full of doom and _____.
5 The injuries were caused by a hit and _____ driver.
6 He's travelled far and _____, but he's never been attacked or robbed.
7 I'm sick and _____ of your complaining.
8 People with a sense of humour are better able to cope with life's ups and _____.
9 I'm going to spend all summer at my summer place. After a busy spring at work I need a bit of peace and _____.
10 We stop anyone we think is smuggling drugs. Sometimes we stop the right people, sometimes we stop the wrong people. The process is very hit and _____.

### 3H Translate into English.

1 Lapsi, jota vahdin, keinui edestakaisin keinussa.
2 Hän huusi minulle, kun kerroin hänelle, että oli aika mennä kotiin.
3 Hän oli ennen niin ujo, mutta nyt kun hän on neljän vanha, hänestä on tullut itsevarmempi.
4 Hänen veljensä vihaa keinuja. On ihmeellistä, miten yksi lapsi voi erota niin paljon toisesta.
5 Joskus haluaisin tehdä tutkimuksen lasten käytöksestä.

**3I** Can you interpret the facial expressions of this monkey? Connect one adjective with each face. Draw an expression in the empty space. Give examples of situations in which you, or perhaps a pet, might express these emotions.

| | | | | | | |
|---|---|---|---|---|---|---|
| calm | surprised | contented | eager | apprehensive | relieved | puzzled |
| furious | delighted | mischievous | curious | disapproving | suspicious | |



**3J** Fill in the missing prepositions.

When I was very young my brother Lowell had found a dead frog **1** _____ the garden, and he spent the afternoon with my father dissecting it **2** _____ the dining room table. I was horrified, but my mother was not angry **3** _____ them because carrying out a study **4** _____ frog intestines was completely normal in our house.

I hadn't thought **5** _____ this memory **6** _____ a long time. But it would explain my reaction **7** _____ an incident that occurred **8** _____ our neighbour's house. Russell's mother was scooping out a pumpkin for Halloween and I remember shouting **9** _____ her to stop. I know scooping out a pumpkin is different **10** _____ gutting a frog, but somehow I must have connected the two events.

## 3K Fill in the gaps using the Finnish hints.

Despite 30 years of protest against animal testing, a variety of animals including mice, rabbits and **1** _____ (simpanssit) are still being used in research laboratories today. It should be clear **2** _____ (tähän mennessä) that a large percentage of the population opposes animal testing. However, pre-clinical trials of medicines and cosmetics are still being carried out on animals. A visit to one of these laboratories can be an unsettling experience for outsiders. You may hear animals **3** _____ (huutaa) because they are **4** _____ (peloissaan). They live in cramped **5** _____ (häkki) and they lack company.

Some **6** _____ (tutkimus) results are unreliable since medicines may work differently in humans and in animals. Since these animals **7** _____ (eivät voi puolustaa itseään) against unnecessary suffering, it is our job to take on this role. We should **8** _____ _____ (kiinnittää huomiota) the labels on the products we purchase. Are soaps and cosmetics marked as cruelty-free? Better still, is there a clear statement that they are not tested on animals or that they contain no animal products?

## 3L Translate the sentences into Finnish. Pay attention to the continuous forms.

1. I was walking across the basement towards the cages when I saw her go rigid.
2. She was still screaming, so I know she didn't hear me.
3. They were both pulling my arms, and between them they bounced me repeatedly against the bars.
4. He was trying to threaten her, but she wasn't paying any attention.
5. She was signing with her one free hand to me. My name, her fingers in the L with that slap against her chest.

**3M** **People and animals. The following role plays are about our relationship with the animal kingdom.**

- In pairs, decide which one of you is A and B.
- Start the role plays using the opening line. Can you keep the conversation going for a full two minutes?
- After two minutes, stop the role play and move on to the next one.

## Role plays

### Teacher-parent meeting

A: You are a kindergarten teacher. There is a child in your group who keeps hugging other children and rolling around on the floor. The other children don't feel comfortable with this. Explain the situation to the parent.

B: You are a parent who is participating in an interesting study: you are raising a young chimpanzee with your family. Your child may have learned some habits from the chimp. Now the kindergarten teacher wants to talk to you.

Opening line
A: Good evening. Thanks for coming in.

### Dog sitting

A: Your friends are going away for the weekend. You are worried they will call and ask you to look after their dog. Last time you did that it ran around your flat barking most of the night and you didn't get much sleep.

B: You are going away for the weekend and need someone to look after your lovely dog Fifi. There is no time to book a kennel. Luckily, your friend has looked after your dog before. Call them.

Opening line
B: Hi, this is Melissa/Mat calling. I wonder if you could do me a big favour?

### Lost pet

A: You live in a flat and have a pet hamster. Unfortunately, you can't find it anywhere. You are quite worried because it can go into the smallest places. This would make it easy for your hamster to escape. You ring your neighbour's doorbell to ask if they have seen your pet.

B: You live in a flat and have a pet snake. Unfortunately, your python disappeared a few days ago. You are not too worried, though, because it is probably just sleeping somewhere.

Opening line
A: Sorry to disturb you, I'm from next door...

### New owner

A: You have a pet that you cannot keep any longer for one reason or another. You posted it on a pet rescue website saying it needs a new home. You still like your pet a lot and would like to keep in touch with the new owner, if possible.

B: You would like to have a pet and saw one advertised on a pet rescue website. You would like more details. You also wonder why someone would give away their pet. Call the number.

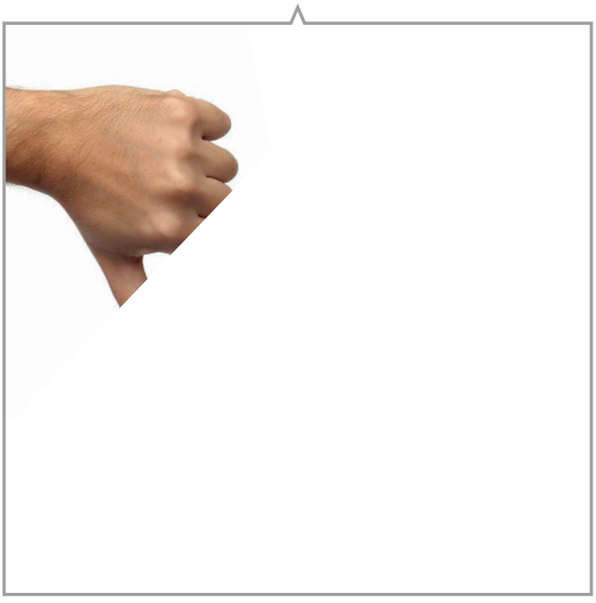
Opening line
B: This is Tina/Tim speaking. I'm calling about the announcement.

**3N** **The pros and cons of animal testing. Listen and answer the questions.**

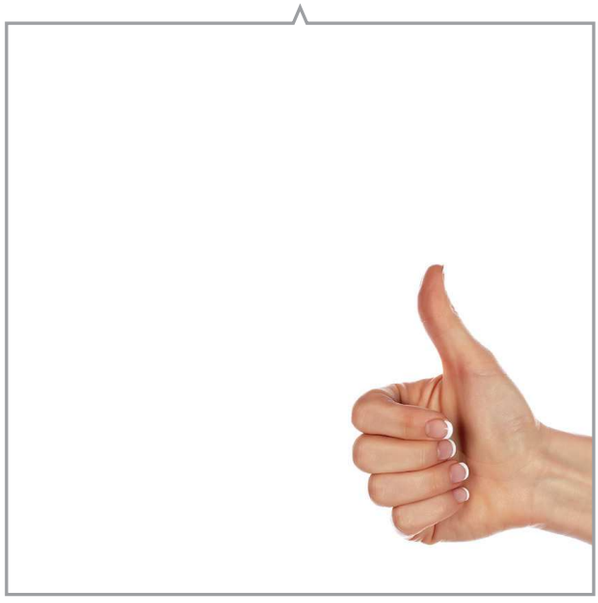
Mark Cole's daughter Lily works as a lab technician for a research institute that routinely carries out tests on animals. Ever since she took the job, the subject of animal testing has been a bone of contention between them.

Listen to their conversation. List the arguments that Mark uses against animal testing and Lily in favour of animal testing.

**Mark Cole against animal testing**



**Lily Cole in favour of animal testing**



**3O** **Choose A, B or C. Write about 150–250 words. See the online *How to write* section for help.**

A What happens when the wardens storm into the room and see Lowell next to Fern's cage? Continue the story.

B Should animal testing be banned? Write an argumentative essay.

C You are a scientist working at a research facility that carries out animal tests. There have been protests outside your work place. Write an article for the local newspaper justifying your work.

## Topic 4

# Nature and landscape

**4A** **Match the following words with the Finnish translations. After you have matched the words, listen to the correct pronunciation.**

| | | | |
|---|---|---|---|
| 1 | swamp _____ | A | koski |
| 2 | mountain summit _____ | B | soraharju |
| 3 | desert _____ | C | tunturi |
| 4 | estuary _____ | D | joensuu |
| 5 | archipelago _____ | E | lahti |
| 6 | gravel ridge _____ | F | aavikko |
| 7 | rapids _____ | G | vuorenhuippu |
| 8 | moor _____ | H | saaristo |
| 9 | fell _____ | I | nummi |
| 10 | bay _____ | J | suo |

**4B** **Form groups of three. Each person chooses a different nature word from exercise 4A. Follow the example below until you have used up all the words in 4A.**

**Student 1:** We went to the moor.

**Student 2:** That's nothing. We went to the moor and the swamp.

**Student 3:** Is that all? We went to the moor, the swamp and the desert.

**4C** **Work in pairs. Read the descriptions of three different holiday destinations from a travel brochure. Match the words in bold to the Finnish translations in the box below. Which destination would you choose?**

# Florida

Welcome to Florida! See the amazing **flora and fauna** in the many national parks around the **peninsula**. Visit the Everglades in southern Florida – a great **wilderness** of swamps and wetlands, and home to fearsome **predators** like alligators and crocodiles.

Florida has extensive shallow coral **reef** formations especially near its southeast **coast** and there are many diving and snorkeling tours on offer. You can also go on a fishing expedition in the **straits** between Florida and Cuba, or stroll along the shore and explore the rock pools at **low tide**.

The Sunshine State is the destination of choice for discerning travelers.

erämaa, korpi _____

kasvisto ja eläimistö

_____

laskuvesi _____

niemimaa _____

petoeläin, saalistaja

_____

rannikko _____

riutta, särkkä _____

salmi _____

# Iceland

In sparsely populated Iceland, nature reigns supreme. On the first day of our 3-day tour, we will visit Skaftafell National Park. The blend of highland **plateau**, summer **meadows**, ice-blue **glaciers** (and an active **volcano**!) here are best explored by hiking, biking or climbing.

On the second day we drive south to a spectacular **waterfall** called *Gullfoss*, where the Hvitá river plunges 70 metres into a **gorge**. In the afternoon we visit *Thingvellir*, the dramatic site of Iceland's first parliament, set in a mighty rift **valley** where the Eurasian and American continental plates are slowly tearing apart. No trip to Iceland is complete without a visit to Geysir ('gusher' in Icelandic).

On our final day we will hike around this geothermal park with its erupting geysers, bubbling **hot springs**, warm **streams** and hissing steam vents before returning to Reykjavík.

jäätiköt _____

kuumat lähteet

_____

laakso _____

niityt _____

purot _____

rotko _____

tasanko _____

tulivuori _____

vesiputous _____

# The Fairest Cape

Cape Tours offers you a tailor-made itinerary to explore the area in and around Cape Town. The 7-day tour offers the following:

- Exploring the **caves** and **cliffs** in and around Table Mountain, the iconic mountain in the centre of the city. Enjoy a drink at the very **peak** of the mountain while watching the sun set over the Atlantic Ocean.
- A 2-day hike in the desert-like **terrain** of the Karoo National Park, where you can watch the **wildlife** in their natural **habitat**. This includes a night walk in the surrounding **hills**.
- A trip to the scenic Cederberg **mountain range** north of the city, where you can see baboons feeding and grooming on the narrow mountain ridges.

elinympäristö _____ luolat _____

huippu _____ maasto _____

jyrkänteet _____ villieläimet _____

kukkulat _____ vuoristo, vuorijono _____

# UNIT 2

## Living sustainably

## Topic 5

# Warm world

On climate change, we often don't fully appreciate that it is a problem. We think it is a problem waiting to happen.
*(Kofi Annan, former Secretary-General of the United Nations)*

**5A** **Listen to the following comedy sketch about climate change and answer the questions in pairs.**

1 Why are the two first speakers worrying?
2 Why is there no reason for them to worry?

*Q: How many climate sceptics does it take to change a lightbulb?*
*A: None. It's too early to say if the light bulb needs changing.*

*Q: Why does the climate want privacy?*
*A: It is changing.*

**5B** Phrases to do with global warming. Match the following words and translate the phrases. In pairs, explain at least five of the phrases in English.

Finnish

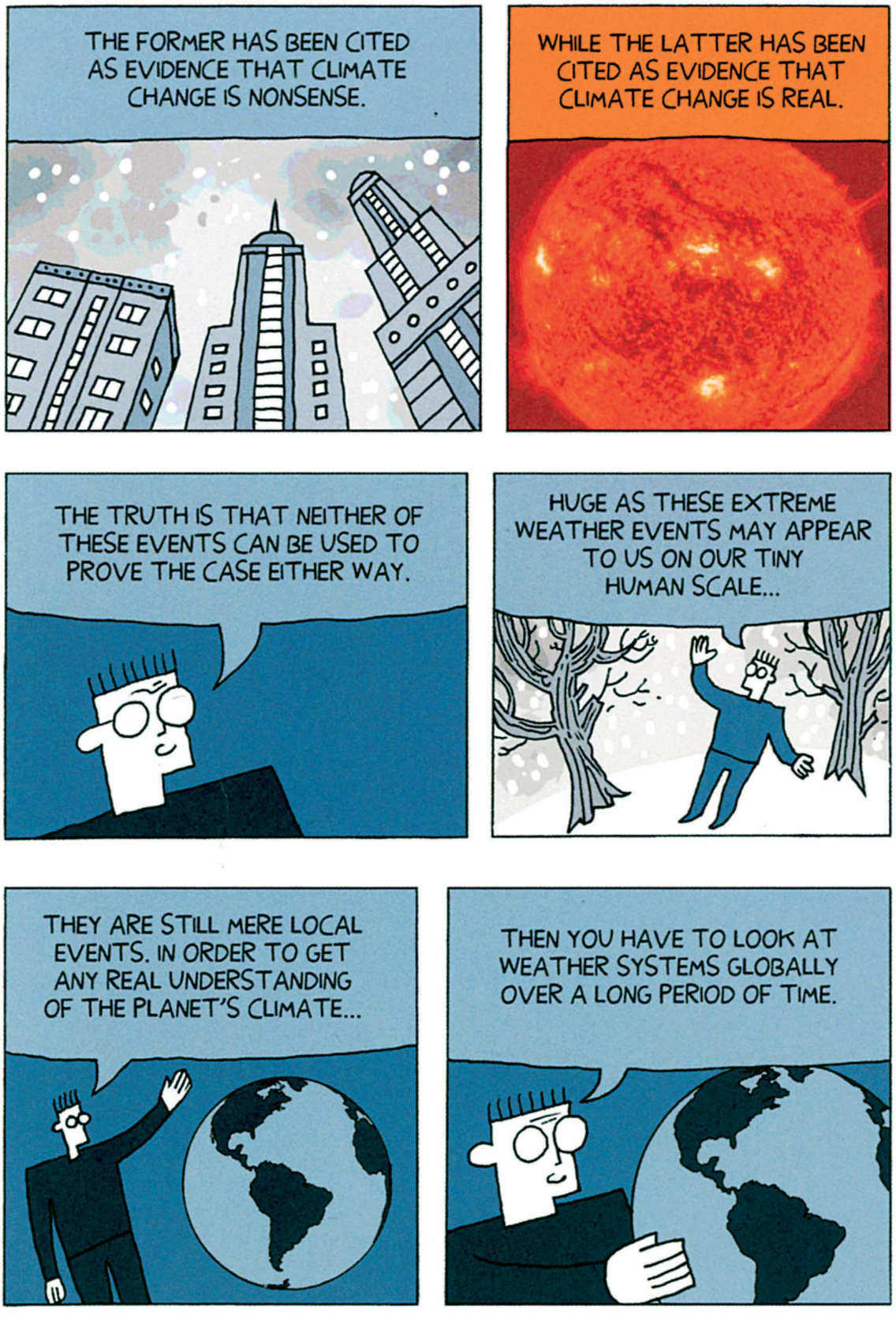
| | | | | |
|---|---|---|---|---|
| 1 | carbon _____ | A | depletion | _____ |
| 2 | global _____ | B | footprint | _____ |
| 3 | ozone _____ | C | change | _____ |
| 4 | climate _____ | D | warming | _____ |
| 5 | melting _____ | E | emissions | _____ |
| 6 | greenhouse gas _____ | F | fuel | _____ |
| 7 | fossil _____ | G | glaciers | _____ |
| 8 | renewable _____ | H | energy | _____ |

**5C** Text 5 is in two parts. First a cartoon on climate change by Darryl Cunningham, and then a listicle *What can YOU do about climate change?* Before reading, discuss the following questions in pairs.

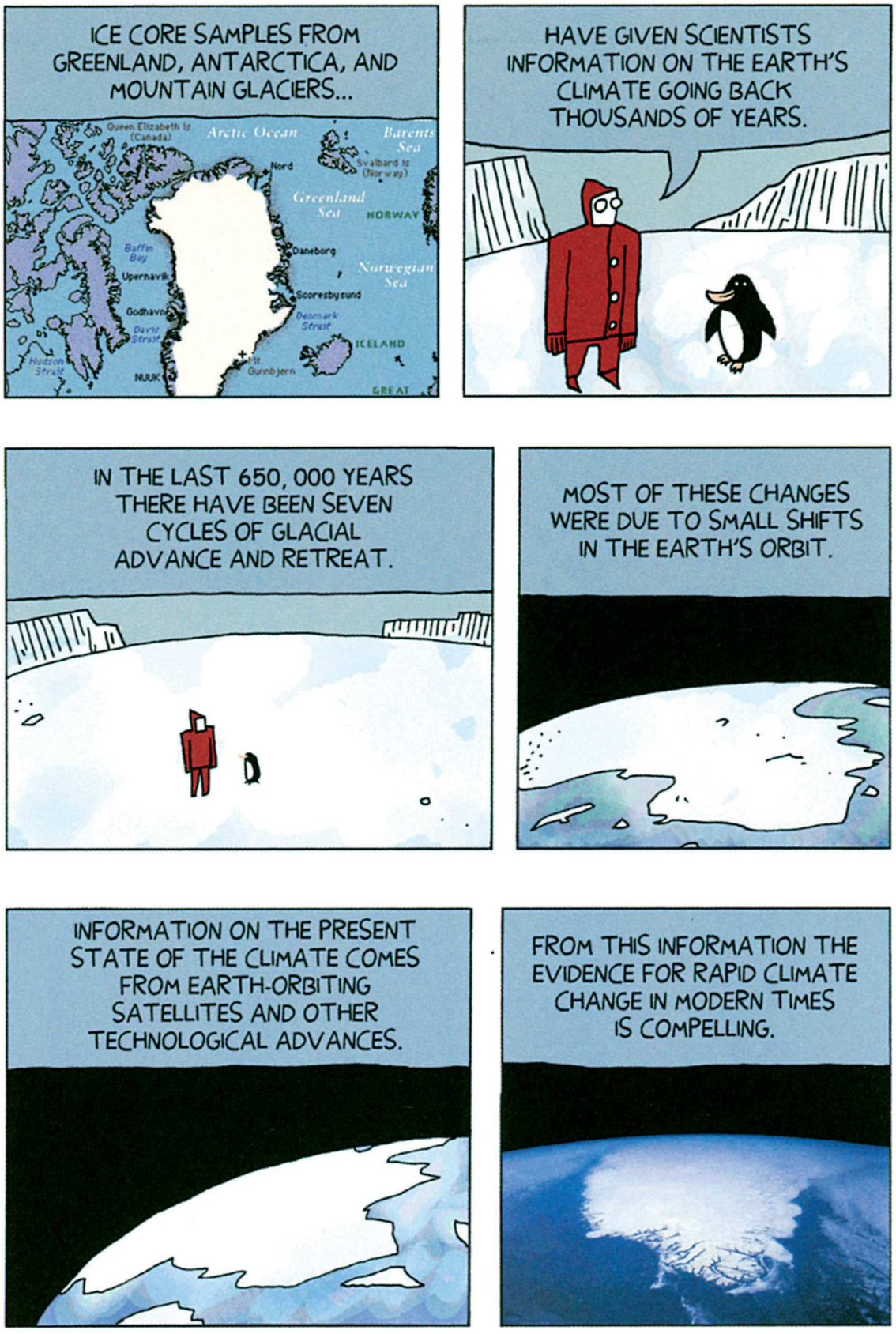
1 What cartoons, comics or graphic novels have you read?
2 Are they simply entertaining or do they sometimes handle serious topics? Give examples.
3 Why might a cartoonist choose a comic strip to communicate a serious message?

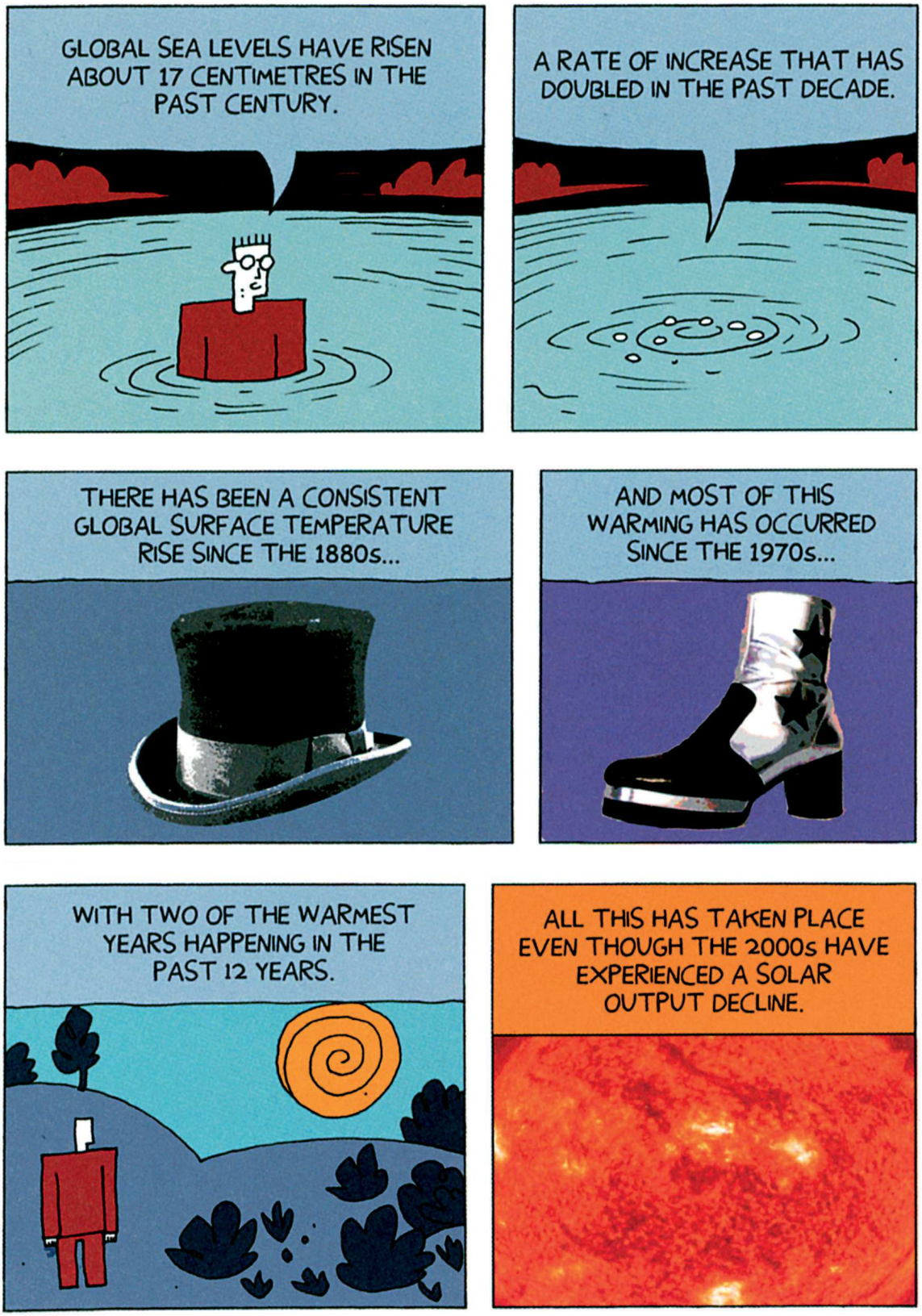
Topic 5 Text

# Climate change


THE FORMER HAS BEEN CITED AS EVIDENCE THAT CLIMATE CHANGE IS NONSENSE.
WHILE THE LATTER HAS BEEN CITED AS EVIDENCE THAT CLIMATE CHANGE IS REAL.
THE TRUTH IS THAT NEITHER OF THESE EVENTS CAN BE USED TO PROVE THE CASE EITHER WAY.
HUGE AS THESE EXTREME WEATHER EVENTS MAY APPEAR TO US ON OUR TINY HUMAN SCALE...
THEY ARE STILL MERE LOCAL EVENTS. IN ORDER TO GET ANY REAL UNDERSTANDING OF THE PLANET'S CLIMATE...
THEN YOU HAVE TO LOOK AT WEATHER SYSTEMS GLOBALLY OVER A LONG PERIOD OF TIME.

→


ICE CORE SAMPLES FROM GREENLAND, ANTARCTICA, AND MOUNTAIN GLACIERS...
Queen Elizabeth Is. (Canada)
Arctic Ocean
Barents Sea
Nord
Svalbard Is. (Norway)
Greenland Sea
NORWAY
Baffin Bay
Daneborg
Upernavik
Norwegian Sea
Scoresbysund
Godhavn
Denmark Strait
Davis Strait
ICELAND
Hudson Strait
NUUK
Mt. Gunnbjorn
GREAT
HAVE GIVEN SCIENTISTS INFORMATION ON THE EARTH'S CLIMATE GOING BACK THOUSANDS OF YEARS.
IN THE LAST 650, 000 YEARS THERE HAVE BEEN SEVEN CYCLES OF GLACIAL ADVANCE AND RETREAT.
MOST OF THESE CHANGES WERE DUE TO SMALL SHIFTS IN THE EARTH'S ORBIT.
INFORMATION ON THE PRESENT STATE OF THE CLIMATE COMES FROM EARTH-ORBITING SATELLITES AND OTHER TECHNOLOGICAL ADVANCES.
FROM THIS INFORMATION THE EVIDENCE FOR RAPID CLIMATE CHANGE IN MODERN TIMES IS COMPELLING.




Extract from *Science Tales* by Darryl Cunningham © Darryl Cunningham, reproduced with permission of Myriad Editions Ltd www.myriadeditions.com.

**global warming** /gləubl wɔːmɪŋ/ ilmaston lämpeneminen
**nonsense** /nɒnsəns/ hölynpöly
**record-breaking** /rekɔːd, rekərd breɪkɪŋ/ ennätyksellinen
**forest fire** /fɒrɪst faɪə/ metsäpalo
**drought** /draut/ kuivuus, sateettomuus
**ravage** /rævɪdʒ/ hävittää, tuhota; hävitys, tuho
**evidence** /evɪdəns/ todisteet, näyttö; näyttää
**appear** /ə'pɪə/ näyttää, ilmaantua, vaikuttaa
**scale** /skeɪl/ mittakaava, asteikko, vaaka; mitoittaa
**mere** /mɪə/ pelkkä
**climate** /klaɪmɪt/ ilmasto, ilmapiiri, ilmanala
**globally** /gləubəli/ maailmanlaajuisesti
**ice core sample** /aɪs kɔː sɑːmpl, sæmpl/ jääkairausnäyte
**Greenland** /griːnlənd/ Grönlanti
**Antarctica** /ænt'ɑːktɪkə/ Etelämanner, Antarktis
**glacier** /glæsɪə, gleɪsɪə/ jäätikkö
**cycle** /saɪkl/ sykli, kierto, kierros; kiertää, pyöräillä
**glacial advance and retreat** /'gleɪʃl əd'vɑːns ænd rɪ'triːt/ jäätiköiden kasvu ja kutistuminen
**orbit** /ɔːbɪt/ kiertorata; kiertää
**rapid** /ræpɪd/ nopea, ripeä
**compelling** /kəm'pelɪŋ/ vakuuttava, vastustamaton
**century** /sentʃəri/ vuosisata
**double** /dʌbl/ kaksinkertaistua; kaksinkertainen; kaksois-
**decade** /dekeɪd, dɪ'keɪd/ vuosikymmen
**consistent** /kən'sɪstənt/ johdonmukainen
**occur** /ə'kɜː/ tapahtua, sattua, juolahtaa mieleen
**output** /autput/ tuotanto; tuottaa
**decline** /dɪ'klaɪn/ lasku, vähentyminen, pudotus; vähentyä, laskea

## 5D Answer the questions in pairs.

1 What do you think the cartoonist is trying to say?
2 Who do you think the intended audience is?

### Take a closer look at the comic strip and answer the questions.

3 Describe the use of colours in the pictures.
4 Give examples of humour or irony.
5 List any important dates or numbers that appear in the comic strip. Why do you think the cartoonist uses them?
6 What special interest groups would agree/disagree with the cartoon's message? Why?
7 Why do you think the writer created this comic strip?

**5E** **Fill in the gaps with the help of the Finnish clues. All the expressions appear in the text. You may have to change them a little.**

## Wild weather

Our planet has been shaped by the weather. **1** _____ (miljoonia vuosia) ago, flows of water and ice carved out valleys and coastlines. Landscapes like the Grand Canyon were formed **2** _____ _____ (pitkän ajan kuluessa) as storm water washed away mud and rock to form the vast canyon we see today. Since we can only experience time **3** _____ (pienessä inhimillisessä mitta-kaavassa), we have never witnessed this dramatic sculpting of our landscape.

However, **4** _____ (viime vuosisadalla) the world has been growing warmer – especially **5** _____ (viime vuosikymmenellä) – and we can now see the planet changing before our eyes. For example, sea levels have risen dramatically **6** _____ (1990-luvulta lähtien), putting low-lying land at risk. During **7** _____ _____ (2000-luvulla) five Pacific islands disappeared under rising seas.

Meanwhile in the US, big cities like Jacksonville and Miami face a serious risk of future flooding. **8** _____ (ensimmäinen ...) has a population of 868,000 and **9** _____ (...jälkimmäinen) 441,000. Yet **10** _____ (ei kumpikaan) city is keen to move its citizens to higher ground. Regardless of what the authorities decide to do, the fact remains that our weather will continue to shape our planet.

# What can YOU do about climate change?

**Healing the planet starts with you and your lifestyle.**

**Countries around the world are implementing measures to reduce their carbon emissions. It's a step in the right direction, but private citizens can also play their part. Here's how you can make a difference.**

## 1 Eat wisely

Eat low on the food chain – at least one meat-free day a week – since 18% of greenhouse gas emissions come from meat production. And you can cut the amount of energy expended on growing the veg you consume by eating seasonally. Buy locally to limit the number of miles the food has to be transported to reach your plate, and always avoid produce that has travelled by air – this puts a lot of carbon into the atmosphere. Better still, if you can, grow some of your food yourself.

## 2 Reduce waste

Actually eat the food you buy. According to recent estimates 30% of the food we buy is thrown out as waste. Garbage buried in landfills produces methane, a potent greenhouse gas. Keep stuff out of landfills by composting kitchen scraps and garden trimmings, and recycle paper, plastic, metal and glass. You could also inform store managers and manufacturers that you want products with minimal or recyclable packaging.

## 3 Rethink travel

Transport is responsible for a quarter of all greenhouse gas emissions, so walk, cycle or take public transport whenever you can. This will shrink your carbon footprint, and you'll be wealthier and healthier, too.

If you can't go car-free, try carpooling or car sharing, and use the smallest, most fuel-efficient vehicle possible. Air transport is a major source of air pollution, so think twice about holidays abroad – unless you're inter-railing or going by bus.

### 4 Make your home eco-friendly

Switch to an electricity supplier that offers clean, renewable power such as electricity generated from wind farms. You can also reduce energy consumption by using LED light bulbs, washing clothes in cold or warm (rather than hot) water, hanging up laundry instead of putting it in the tumble dryer, and checking the energy efficiency of each new appliance you purchase.

### 5 Speak up

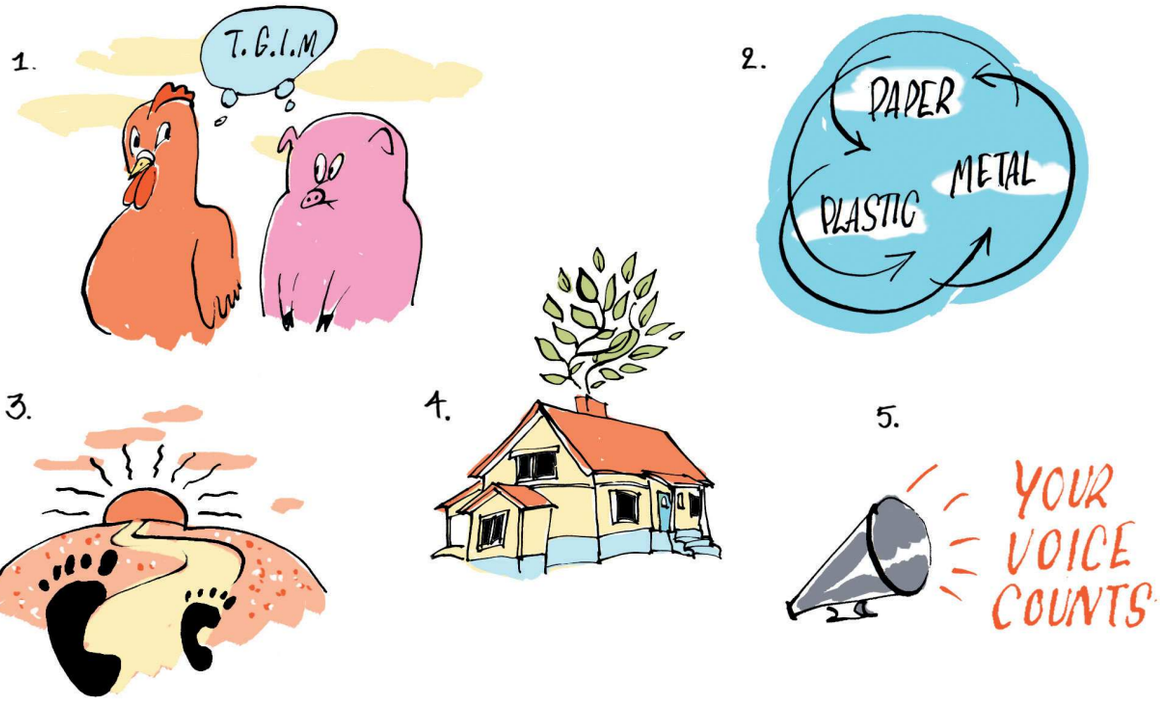
If a politician wants to stay in office, they have to listen to the demands of those who elect them. The same is true of businesses who want to keep their customers. So, if you think their policies or practices are failing to take the issue of global warming seriously, then voice your concerns. Let them know what you think via social media, online petitions, and email. An organised street protest is a compelling way of getting your message across, especially if it receives press coverage.

And most important of all: act now. Don't wait until tomorrow. Remember that small steps add up if we all do our part.

**heal** /hiːt/ parantaa, parantua
**implement** /ɪmplɪmənt/ toteuttaa; väline, työkalu
**measure** /meʒə/ toimenpide, mittari; mitata
**reduce** /rɪˈdjuːs, rɪˈduːs/ vähentää, vähentyä
**emission** /ɪˈmɪʃn/ saastepäästö, vuoto, säteily
**private citizen** /praɪvɪt sɪtɪzn/ yksityinen kansalainen
***make a difference** /meɪk ə ˈdɪfrəns/ vaikuttaa
**food chain** /fuːd tʃeɪn/ ravintoketju
**expend** /ɪkˈspend/ käyttää, kuluttaa
**consume** /kənˈsjuːm, kənˈsuːm/ kuluttaa, syödä, juoda, nauttia
**seasonally** /siːzənəli/ kausiluonteisesti
**avoid** /əˈvɔɪd/ välttää, hyljeksiä, pakoilla
**produce** /prəˈdjuːs/ tuotteet, tuotanto; tuottaa, valmistaa
**atmosphere** /ætməsfɪə/ ilmakehä, ilmapiiri, tunnelma
**reduce** /rɪˈdjuːs, rɪːˈduːs/ vähentää; vähentyä
**estimate** /estɪmɪt; eʃtɪmeɪt/ arvio; arvioida
**garbage** /gɑːbɪdʒ/ jätteet, roskat, roska, jäte
**landfill** /lændfɪl/ kaatopaikka
**methane** /miːθeɪn/ metaani
**greenhouse gas** /griːnhaus gæs/ kasvihuonekaasu
**compost** /kɒmpɒst/ kompostoida; komposti, kompostimulta
**scraps** /skræps/ ruoantähteet, tähteet
**garden trimmings** /gɑːdn trɪmɪŋs/ puutarhajätteet
**recycle** /ˌriːˈsaɪkl/ kierrättää
**manufacturer** /ˌmænjuˈfæktʃərə/ valmistaja; valmistaa
**packaging** /pækɪdʒɪŋ/ pakkausmateriaali; pakkaaminen, paketointi
**rethink** /ˌriːˈθɪŋk/ harkita, arvioida uudelleen
**public transport** /pʌblɪk trænspɔːt/ julkinen liikenne
***shrink, shrank, shrunk** /ʃrɪŋk, ʃræŋk, ʃrʌŋk/ kutistaa, kutistua
**carbon footprint** /kɑːbən futprɪnt/ hiilijalanjälki
**carpool** /kɑːpuːl/ kulkea kimppakyydillä
**fuel-efficient** /ˌfjuːəlɪˈfɪʃənt/ polttoainetehokas
**vehicle** /viːɪkl/ ajoneuvo
**eco-friendly** /iːkəuˈfrendli/ ympäristöystävällinen
**supplier** /səˈplaɪə/ toimittaja, hankkija
**generate** /dʒenəreɪt/ tuottaa, herättää, synnyttää
**wind farm** /wɪnd fɑːm/ tuulipuisto
**consumption** /kənˈsʌmpʃn/ kulutus
**bulb** /bʌlb/ lamppu, hehkulamppu
**tumble dryer** /tʌmbl draɪə/ kuivausrumpu
**efficiency** /ɪˈfɪʃənsi/ tehokkuus
**appliance** /əˈplaɪəns/ laite, kone
**purchase** /pɜːtʃəs/ ostaa; ostos
**office** /ɒfɪs/ virasto, toimipaikka, ministeriö, toimisto
**customer** /kʌstəmə/ asiakas
**policy** /pɒlɪsi/ politiikka, linja
**fail** /feɪl/ epäonnistua; epäonnistuminen
**issue** /iʃuː, ɪsjuː/ kysymys, ongelma
**voice** /vɔɪs/ ilmaista; ääni
**concern** /kənˈsɜːn/ huoli, asia; huolestuttaa
**via** /vaɪə/ kautta
**petition** /pəˈtɪʃn/ vetoomus; vedota
**compelling** /kəmˈpelɪŋ/ pakottava
**press coverage** /pres kʌvərɪdʒ/ uutisointi, lehdistön käsittely

*Two planets meet. The first one asks: "How are you?"*
*"Not so well", the second answered. "I've got the Homo Sapiens."*
*"Don't worry," the other replied, "I had the same. It won't last long."*

**5F** In pairs, take turns summarising text 5 *What can YOU do about climate change?* in English with the help of the pictures.




**5G** Choose the correct alternative based on the text.

Final exam focus

1 You eat sustainably if you
   a) eat meat only once a day.
   b) grow your own food.
   c) eat Finnish tomatoes in winter.

2 You reduce waste by
   a) keeping stuff out of the compost.
   b) not buying more food than you need.
   c) avoiding recycling.

3 The greenest way to travel abroad is by
   a) inter-railing.
   b) flying only once a year.
   c) hiring the smallest possible car.

4 Your home is eco-friendly if you
   a) choose oil rather than electricity to heat your home.
   b) don't use energy that is collected from renewable sources, such as wind.
   c) dry your laundry outside.

5 Organising a street protest
   a) needs to be done via social media.
   b) shows you are serious about global warming.
   c) is an effective way of communicating your views.

## Phrase hunt

**5H** **Find the following expressions in the text.**

1 oikeaan suuntaan _____

2 syö ravintoketjun alkupäästä _____

3 osta paikallisia tuotteita _____

4 vältä lennätettyjä tuotteita _____

5 kierrätä paperi, muovi, metalli ja lasi

_____

6 käytä julkista liikennettä aina kun voit

_____

7 Tämä pienentää hiilijalanjälkeäsi

_____

8 kokeile kimppakyytiä _____

9 vähentää energian kulutusta _____

10 ilmaise huolesi _____

Eat green!

**51** Listen and fill in the gaps. Then read the dialogue aloud in pairs.

## Going green

Gary: Is that your helmet? Don't tell me you cycled to work!

Jon: Why not?

Gary: It's raining. That's why I came by car.

Jon: Why didn't you take the bus? Really, you should **1** _____ _____.

Gary: I prefer my car. No standing around at bus stops. Anyway, buses don't always take you where you want to go.

Jon: In that case you should **2** _____. Sharing a car with other people is a good way to **3** _____ _____.

Gary: There's more to life than saving money on petrol. Hey, is this bike thing one of Trish's ideas? Like the time you went veggie?

Jon: I still am vegetarian. It makes sense to **4** _____ _____. You know, it lowers your environmental impact.

Gary: What do you mean?

Jon: It **5** _____ – being veggie. Especially if you **6** _____. That's why I shop at the farmers' market. That way you **7** _____ _____. See? No energy wasted transporting food over a long distance. And no packaging to **8** _____.

Gary: It's easier to shop at the supermarket.

Jon: Don't you want to **9** _____? You know, play your part in saving the planet?

Gary: That sounds like Trish talking! You never used to **10** _____ _____ about the planet before you met her.

Jon: True. On the other hand, I didn't use to save so much money on food, travel and heating, either. Now we can afford to buy our own flat instead of renting.

Gary: Really? Your own flat? Um... you don't know anyone who wants to buy a second-hand car, do you?

**5J** **Answer the following questions in pairs.**

1 Do you eat vegetarian food? Why?
2 Could a vegetarian and a non-vegetarian date? Would that be a deal-breaker for you?
3 Do you think it's OK to fly abroad? Explain.
4 How do you travel to school? Why?
5 Do you recycle? Give examples.
6 Have you got any experience of carpooling? Would you be willing to try it? Why?

**deal-breaker** ratkaiseva seikka

**5K** **Play Pictionary in teams of four. Each of you will need a piece of paper and a pencil. Take turns in drawing the following words. The winner is the one who guesses most of the words. See how many words you can guess in five minutes.**

| | |
|---|---|
| toxic | greenhouse gas emissions |
| carbon footprint | local food |
| carpooling | melting glaciers |
| climate change | ozone depletion |
| food chain | public transport |
| fossil fuel | recycling |
| garbage | vehicle |
| global warming | carbon dioxide |

**5L** **Recycling. Which is the odd man out in each group of words? Explain why.**

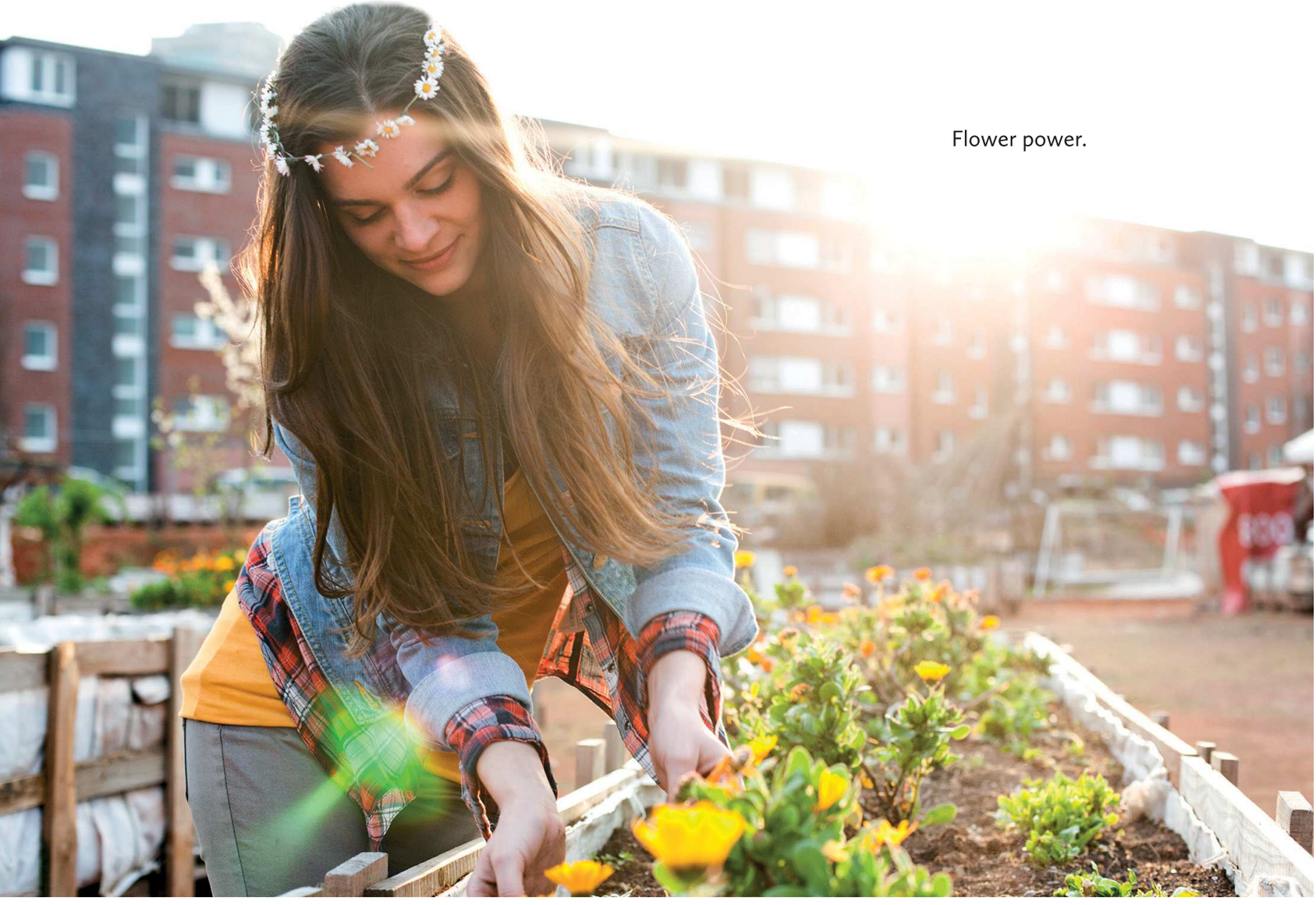
1 compost, recycle, bottle bank, biodiversity
2 glass, cans, landfill, cardboard
3 solar panel, fossil fuel, biogas, wind farm
4 carbon footprint, environment, ecosystem, habitat
5 rubbish, litter, garbage, fumes
6 eco-friendly, fuel-efficient, wasteful, green
7 toxic, organic, contaminating, polluting
8 sustainable, disposable, renewable, reusable
9 carbon dioxide, oxygen, methane, ozone
10 pesticide, packaging, crop, fertilizer

**5M** **Choose task A, B or C. Write about 150–250 words. See the online *How to write* section for help.**

A *How to make our school greener*. You are asked to write and give a speech on this topic.

B Plan an environmental campaign. Draw a cartoon or an advertisement. You can decide on the subject you would like to handle. Include a paragraph or two explaining the message and how you tried to communicate it.

C I am a vegan/vegetarian. Why did you become one? What is it like to be a vegan/vegetarian? How did friends and family react? What changes would you like to see in our world?



Flower power.

## Topic 6

# The economy vs. the environment

We are living on this planet as if we had another one to go to.
*(Terri Swearingen, American nurse and activist)*

**6A** **Fast fashion. How much are you prepared to pay for your clothes? Lily and Paige are discussing the true price of a pair of jeans. Listen to their conversation and choose the most appropriate answer.**

1 Paige has bought a pair of jeans because
   a) she has found a pair that she likes.
   b) her old ones are too small.
   c) she needs a new pair of jeans.

2 What is true about Lily?
   a) She doesn't care if she upsets her friend Paige.
   b) Her main concern is the amount of water the cotton industry consumes.
   c) When it comes to clothes, she thinks one should check labels and shop responsibly.

**6B** **Work in pairs and discuss whether you agree or disagree with the following statements. Say why.**

| | | agree | disagree |
|---|---|---|---|
| 1 | I am willing to pay more for my clothes if they are made from organic, or environmentally-friendly fabric. | ☐ | ☐ |
| 2 | I always look for the best deals. Price is the most important issue. I'm a poor student, after all. | ☐ | ☐ |
| 3 | When it comes to clothes, I think everyone should buy only what they need. | ☐ | ☐ |
| 4 | Man-made fibres take a long time to decompose. Everyone should buy only natural fibres, like cotton, wool or linen. | ☐ | ☐ |
| 5 | Man-made fibres can be recycled, so they are better for the environment than natural fibres. | ☐ | ☐ |
| 6 | I am willing to pay more for my clothes if I know the workers get a better deal. | ☐ | ☐ |
| 7 | The working conditions of workers in other countries are not my responsibility. | ☐ | ☐ |

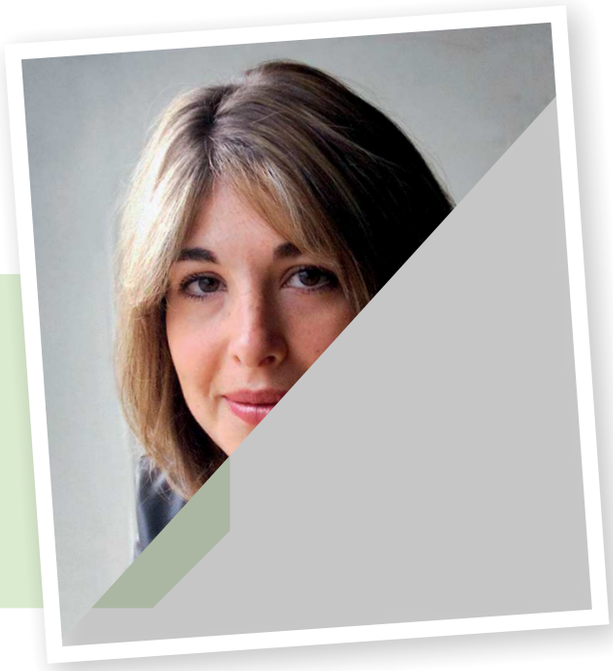
## Personal dictionary

**6C** **Read text 6. Find the words below in the text and underline them.**

- First, guess the meaning of the words, then look them up in the vocabulary app if necessary and write them down on p. 84–85.
- Choose 3–5 extra words and mark them, too.
- Try making sentences with some of the words.

1 contraction
2 expansion
3 emission
4 dam
5 barrier
6 response
7 perimeter
8 coalition

**Naomi Klein** is an award-winning journalist, social activist and author of critically acclaimed international bestsellers like *No Logo* and *This Changes Everything*. She lives in Canada.



## Topic 6 Text

# This Changes Everything

**The fundamental law of our current economic system is this: grow or die. According to award-winning journalist, Naomi Klein, our economic system and our planetary system are now at war. She thinks that what the climate needs to avoid collapse is a contraction of our use of natural resources like oil and coal. In contrast, what our capitalist economic system needs to survive, is continuous, unregulated expansion, fed by natural resources. Only one of these two systems can be changed. No prizes for guessing which one.**

**Read what she says in her work *This Changes Everything* about the clash between capitalism and the climate.**

**6D** Choose the statement that is closest in meaning to what is said in the paragraph above.

1 a) We cannot change the laws of our economic system.
b) We need to leave more of our natural resources in the ground.

### Cheap Labor, Dirty Energy: A Package Deal

As the free trade system was put in place and producing offshore became the rule, emissions did more than move – they multiplied... The reason for what Andreas Malm – a Swedish expert on the history of coal – describes as "the early 21st Century emissions explosion" is straight-forward enough. When China became the "workshop of the world" it also became the coal-spewing "chimney of the world." A large percentage of China's total emissions is directly related to producing goods for export, and the subsequent transporting of those goods over long distances. Clearly, one of the reasons for the climate crisis is because of this model of globalization.

2 a) Thanks to free trade, companies have been able to move their production overseas.
b) China is too far away for many companies.

One of the primary driving forces of the particular trade system designed in the 1980s and 1990s was always to allow multinationals the freedom to scour the globe in search of the cheapest and most exploitable labor force. Soon virtually all roads led to China, a country where wages were extraordinarily low, trade unions were brutally suppressed, and the state was willing to spend seemingly limitless funds on massive infrastructure projects – modern ports, sprawling highway systems, endless numbers of coal-fired plants, massive dams – all to ensure that the lights stayed on in the factories and the goods made it from the assembly lines onto the container ships on time. A free trader's dream, in other words – and a climate nightmare.

3 a) Trade unions have played a big part in the economic rise of China.
b) China has been willing to develop areas needed for effective production.

A nightmare because there is a close correlation between low wages and high emissions. And why wouldn't there be? The same logic that is willing to work laborers to the bone for pennies a day will burn mountains of dirty coal while spending next to nothing on pollution controls because it's the cheapest way to produce. So when the factories moved to China, they also got markedly dirtier. As Malm points out, Chinese coal use was declining slightly before the explosion in manufacturing sent it soaring once again. It's not that the companies moving their production to China wanted to drive up emissions: they were after the cheap labor, but exploited workers and an exploited planet are, as it turns out, a package deal. A destabilized climate is the cost of deregulated, global capitalism, its unintended, yet unavoidable consequence.

4 a) Companies were not thinking of emissions when they moved their production to China.
b) Coal mining is a lucrative job for Chinese workers.

→

This connection between pollution and labor exploitation has been true since the earliest days of the Industrial Revolution. But in the past, when workers organized to demand better wages, and when city dwellers organized to demand cleaner air, the companies were pretty much forced to improve both working and environmental standards. That changed with the advent of free trade: thanks to the removal of virtually all barriers to capital flows, corporations could pick up and leave every time labor costs started rising.

5 a) Since the Industrial Revolution there has been little focus on environmental issues.
b) Labor costs dictate where companies want to produce their goods.

While our clothes, electronics and furniture may be made in China, the economic model was primarily made in the U.S.A. And yet when the subject of climate change comes up in discussion in wealthy, industrialized countries, the instant response, very often, is that it's all China's fault (and India's fault and Brazil's fault and so on). Why bother cutting our own emissions when everyone knows that the fast developing economies are the real problem, opening more coal plants every month than we could ever close?

This argument is made as if we in the West are mere spectators to this reckless and dirty model of economic growth. As if it was not our governments and our multinationals that pushed a model of export-led development that made all of this possible. As if it were not our own corporations who, with single-minded determination (and with full participation from China's autocratic rulers), turned the Pearl River Delta into their carbon-spewing special economic zone, with the goods going straight onto container ships headed to our superstores. All in the name of feeding the god of economic growth (via the altar of hyper-consumption) in every country in the world.

6 a) Most Western countries agree that they are responsible for the increase of emissions.
b) The West tends to deny its role in the environmental problems caused by outsourcing to low-cost countries.

The victims in all this are regular people: the workers who lose their factory jobs in Detroit and Johannesburg; the workers who get the factory jobs in Shenzhen and Dhaka, jobs that are by this point so degraded that some employers install nets along the perimeters of roofs to catch employees when they jump, or where safety codes are so lax that workers are killed in the hundreds when buildings collapse.

The greatest tragedy of all is that so much of this was eminently avoidable. We knew about the climate crisis when the rules of the new trade system (NAFTA) were being written. A strong coalition of North American labor and environmental groups opposed NAFTA precisely because they knew it would drive down labor and environmental standards. For a time it even looked as if they would win. But they didn't. And here we are.

985 words from THIS CHANGES EVERYTHING: CAPITALISM VS. THE CLIMATE by Naomi Klein (Penguin Books 2014) Copyright © Naomi Klein, 2014.

7 a) Employees worldwide are affected by how free trade has changed the quality of their working life.
b) NAFTA has had a positive role in improving working conditions in North America.

• • •

8 In the excerpt Naomi Klein
a) defends the current Western way of thinking: economic growth is needed and has to be supported.
b) states that offshore production increases pollution.

**current** /kʌrənt/ nykyinen, ajankohtainen
**award-winning** /əˌwɔːdˈwɪnɪŋ/ palkittu
**planetary** /plænɪtri/ planetaarinen, planeettaan tai planeettoihin liittyvä
**collapse** /kəˈlæps/ romahtaa, lyyhistyä, sortua, luhistua
**contraction** /kənˈtrækʃn/

---

**natural resources** /nætʃərl rɪˈzɔːsɪz/ luonnonvarat
**capitalist** /kæpɪtəlɪst/ kapitalistinen, porvarillinen; kapitalisti, porvari
**unregulated** /ˌʌnˈregjuleɪtɪd/ säännöstelystä vapaa
**expansion** /ɪkˈspænʃn/

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**free trade** /friː treɪd/ vapaakauppa
**produce** /prəˈdjuːs, prəˈduːs; prɒdjuːs, prɒduːs/ tuottaa, tehdä; tuotteet, tuotanto, tuote (maatalous)
**offshore** /ˌɒfˈʃɔː/ ulkomaille ulkoistettu, avomerellä sijaitseva tai toimiva, merelle suuntautuva, avomeren- ; ulkoistaa ulkomaille
**emission** /ɪˈmɪʃn/

---

**multiply** /mʌltɪplai/ monikertaistua, kertoa, lisääntyä
**straight-forward** /ˌstreitˈfoːwəd/ yksinkertainen, suoraviivainen, suora, avoin
**workshop** /wɜːʃɒp/ paja, työpaja, työhuone, ryhmätyökurssi
**coal-spewing** /ˌkəulˈspjuːɪŋ/ hiiltäsyöksevä
**chimney** /tʃɪmni/ savupiippu
**percentage** /pəˈsentɪdʒ/ osuus, prosentuaalinen osuus, prosentti
**goods** /gudz/ tavara, kauppatavara
**export** /ekspɔːt; ɪkˈspɔːt/ vienti; viedä, viedä maasta
**subsequent** /sʌbsɪkwent/ myöhempi, seuraava, peräkkäinen
**transport** /trænspɔːt/ siirtää, kuljettaa; kuljetus, kuljettaminen, liikenne
**model** /mɒdl/ malli, esikuva; mallintaa, esitellä
**globalization** /ˌgləubəlaɪˈzeɪʃn/ globalisaatio, maapalloistuminen
**primary** /praɪməri; praɪmeri/ ensisijainen, ensimmäinen
**driving force** /draɪvɪŋ fɔːs/ käyttövoima
**trade** /treɪd/ kauppa, kaupankäynti; käydä kauppaa
**design** /dɪˈzaɪn/ suunnitella, muotoilla; muotoilu, suunnittelu, muotoilu
**allow** /əˈlau/ sallia, hyväksyä, vahvistaa, myöntää
**multinational** /ˌmʌltɪˈnæʃənl/ monikansallinen
**scour** /skauə/ etsiä, tutkia, pestä, hangata
**exploitable** /ɪkˈsplɔɪtəbl/ hyväksi käytettävissä oleva
**labor force** /leɪbə fɔːs/ työvoima
**virtually** /vɜːtʃuəli/ käytännössä, lähes, melkein
**wage** /weɪdʒ/ palkka, ansiotulo; lietsoa
**extraordinarily** /ɪkˈstrɔːdənrɪli/ poikkeuksellinen
**brutally** /bruːtəli/ julmasti, raa'asti
**trade union** /treɪd ˈjuːniən/ ammattiliitto
**suppress** /səˈpres/ kukistaa, nujertaa, hiljentää, vaimentaa
**seemingly** /siːmɪŋli/ ilmeisesti, nähtävästi
**limitless** /lɪmɪtləs/ rajaton, ääretön
**funds** /fʌnds/ rahavarat, varat, vara
**massive** /mæsɪv/ valtava, massiivinen
**infrastructure** /ɪnfrəstrʌktʃə/ infrastruktuuri
**port** /pɔːt/ satama
**sprawling** /sprɔːlɪŋ/ levinnyt, kasvavat
**endless** /endlɪs/ loputon, päättymätön
**plant** /plɑːnt, plænt/ tehdas, kasvi, taimi; istuttaa, kylvää
**dam** /dæm/

---

**ensure** /ɪnˈʃuə/ varmistaa, taata
**assembly line** /əˈsembli laɪn/ kokoonpanolinja, liukuhihna
**container ship** /kənˈteɪnə ʃɪp/ konttilaiva
**correlation** /ˌkɒrəˈleɪʃn/ korrelaatio, riippuvuus, riippuvuussuhde
**logic** /lɒdʒɪk/ logiikka
**work to the bone** /wɜːk tə ðə bəun/ raataa
**pollution control** /pəˈluːʃn kənˈtrəul/ saasterajoitus
**markedly** /mɑːkədli/ ilmeisesti, selvästi
**decline** /dɪˈklaɪn/ laske, heiketä, pudota, kieltäytyä
**soar** /sɔːr/ kohota rajusti, kiivetä, nousta, liidellä

**exploited** /ɪk'splɔɪtɪd/ riistetty
**package deal** /pækɪdʒ di:l/ kytkykauppa
**destabilized** /ˌdi:'steɪbəlaɪzd/ epävakaa, horjutettu
**deregulated** /ˌdi:'regjuleɪtɪd/ säännöstelystä purettu, vapautettu
**unintended** /ˌʌnɪn'tendɪd/ tahaton
**unavoidable** /ˌʌnə'vɔɪdəbl/ väistämätön
**consequence** /kɒnsɪkwəns/ seuraus, arvo, merkitys
**lucrative** /'lu:krətɪv/ houkutteleva
**Industrial Revolution** /ɪn'dʌstrɪəl ˌrevə'lu:ʃn/ teollinen vallankumous
**city dweller** /sɪti dwelə/ kaupungin asukas, kaupunkilainen
**advent** /ædvent/ saapuminen, tulo
**removal** /rɪ'mu:vl/ kumoaminen, poisto, muuttaminen, muutto
**barrier** /bærɪə/

---

**capital flow** /kæpɪtl fləu/ pääomatulo, pääomavirta
**corporation** /ˌkɔ:pə'reɪʃn/ yhtiö, yritys
**cost** /kɒst/ kustannus, hinta; maksaa
**primarily** /praɪmərəli/ pääasiassa, pääasiallisesti, ensisijaisesti
**wealthy** /welθi/ vauras, varakas, äveriäs
**instant** /instənt/ välitön, pika-; hetki, silmänräpäys
**response** /rɪ'spɒns/

---

**mere** /mɪə/ pelkkä; ainoa
**spectator** /spek'teɪtə/ katsoja, katselija, sivustakatsoja
**reckless** /rekləs/ edesvastuuton, holtiton, varomaton
**export-led** /ekspɔ:tled/ vientijohtoinen, vientipainottoinen
**single-minded** /ˌsɪŋgl'maɪndɪd/ määrätietoinen
**determination** /dɪˌtɜ:mɪ'neɪʃn/ määrätietoisuus, päättäväisyys, määrittäminen
**participation** /pɑ:ˌtɪsɪ'peɪʃn/ osallistuminen, osanotto
**autocratic** /ˌɔ:tə'krætɪk/ itsevaltainen, yksinvaltainen
**ruler** /ru:lə/ hallitsija, valtias, viivoitin
**superstore** /su:pəˌstɔ:/ hehtaarihalli, hypermarketti
**altar** /ɔ:ltə/ alttari
**hyper-consumption** /ˌhaɪpəkən'sʌmpʃn/ hyperkulutus, suurkulutus
**victim** /vɪktɪm/ uhri
**degraded** /dɪ'greɪdɪd/ halveksittu, taantunut
**install** /ɪn'stɔ:l/ asentaa, asettaa
**net** /net/ verkko, haavi; voittaa netota
**perimeter** /pə'rɪmɪtə/

---

**safety code** /seɪfti kəud/ turvamääräys
**lax** /læks/ väljä, löyhä, höllä, leväperäinen
**collapse** /kə'læps/ sortua, romahtaa, lyyhistyä
**eminently** /emɪnəntli/ ilmeisen, erityisesti
**coalition** /ˌkəuə'lɪʃn/

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**oppose** /ə'pəuz/ vastustaa, uhmata

## 6E Answer the questions in Finnish. Use your answers to write a summary of the text.

1 Mitä Naomi Klein tarkoittaa sanoessaan, että maapallomme ja taloutemme ovat sodassa keskenään?
2 Miten vapaakauppa, hiili ja päästöt liittyvät toisiinsa Malmin mukaan?
3 Mainitse kolme syytä, jotka tekevät Kiinasta vapaakaupan unelman?
4 Mikä yhdistää työntekijöitä sekä länsimaissa että kehittyvissä maissa?

## Phrase hunt

**6F** **Find the following expressions in the text.**

1 sodassa _____

2 tuli säännöksi _____

3 on suoraan yhteydessä _____

4 kaikki tiet veivät Kiinaan _____

5 vaatia parempaa palkkaa _____

6 kaikkien esteiden poistaminen

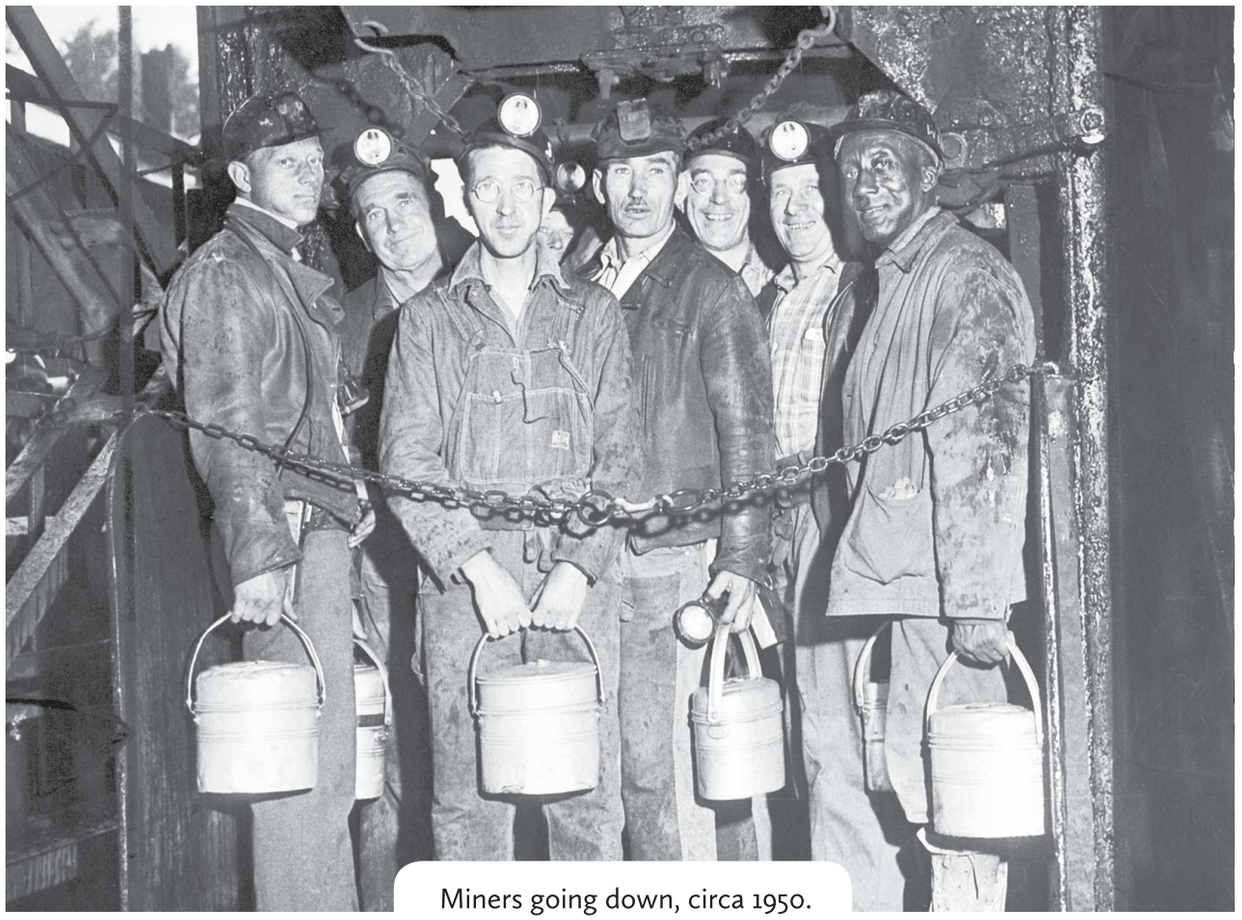
_____

7 kun aihe ... nousee esiin _____

8 nopeasti kehittyvät taloudet _____

9 määrätietoisella päättäväisyydellä _____

10 kuolee sadoittain _____



Miners going down, circa 1950.

**6G** **Fill in the gaps using the expressions in exercise 6F. You may need to change the expressions a little. Then listen to the story and check your answers.**

### The miners' dilemma

Al's father was an Australian coal miner. Coal miners earned little money, and the work was dirty and dangerous. Miners **1** _____ _____ every year. Finally, the miners got organised. They founded a union and **2** _____ and better working conditions. Al's father became a union leader.

The mine owners ignored their demands. Soon the miners were basically **3** _____ with the companies who employed them. Strikes and go-slows (where you turn up for work, but work really, really slowly) **4** _____ as the miners supported each other **5** _____ _____. The mining companies started to lose money. Some went bankrupt. It looked as if the workers might win. But then a new trade deal led to **6** _____, and the mining industry had the option to move their operation to developing countries. Soon **7** _____, where it was much cheaper to extract the coal.

Al's father had a meeting with the manager. "Unfortunately, lower wages **8** _____ higher profitability," the manager explained, "so either the union agrees to a cut in salary to help make the mine profitable again, or we shut down the mine and you all lose your jobs." What were the miners to do?

**6H** **Choose a logical ending for the beginning of the sentence. Then translate the sentence into Finnish.**

1 They scoured the island _____

2 In order to survive, our economic system depends on _____

3 The growth of companies, unfortunately, is often dependent _____

4 It is not only polluting emissions from factories, _____

5 Because of free trade _____

6 In developing countries the safety codes are sometimes so lax _____

7 When the subject of climate change came _____

8 In the West people were aware of the climate crisis _____

A but also those from long-distance transport that contribute to the "emissions explosion".
B that the lives of workers are in danger.
C in search of water and wood.
D offshore production has become the norm.
E when the rules of the current trade system were being written.
F the principle of eternal growth.
G up at a conference in Shanghai, Western representatives denied all responsibility.
H on finite natural resources.

**6I** **Not everyone agrees with Naomi Klein, and her book has been controversial. Listen to what one critic said, and answer the questions.**

1 According to the critic, which two issues does Naomi Klein not address in her book?

_____

_____

2 What does the critic imply with the expression "The Earth is vastly older and stronger than homo sapiens"?
a) The Earth has more natural resources than the human race.
b) The Earth is a huge place with room for many other species.
c) Regardless of what we do, the Earth will survive. We may not.

**6J** **Replace the coloured words in the sentences with a suitable synonym from the box. Do not change the words. There is one extra word. All the words are from text 6.**

| | | | | |
|---|---|---|---|---|
| mountain | close | slightly | brutally | reckless |
| greatest | markedly | limitless | sprawling | |

1 Most people seem to think that the planet has **boundless** resources. We don't.
2 Consumption has increased **significantly** with the rise of outsourcing.
3 The **vast** city was covered in a haze of smog as far as the eye could see.
4 The oil industry is a **ferociously** competitive working environment.
5 The **irresponsible** behaviour of the coal industry has had disastrous consequences.
6 "We're burying our land under a **pile** of rubbish," the President said.
7 Environmentally speaking, the **best** shopping strategy is: don't.
8 Everyone has a **somewhat** different opinion on how to handle climate change.

**6K** **In text 6 the author, Naomi Klein, aims to persuade the reader that capitalism is responsible for climate change. She uses many strong expressions to make her argument more forceful. What is the effect of the following expressions? The first one has been done for you.**

| | **Expression** | **Effect?** |
|---|---|---|
| 1 | "China became ... the coal-spewing 'chimney of the world.'" | Spewing means vomiting so it makes the smoke sound disgusting. |
| 2 | "sprawling highway systems" | |
| 3 | "endless numbers of coal-fired plants" | |
| 4 | "a climate nightmare" | |
| 5 | China works "laborers to the bone". | |
| 6 | China burns "mountains of dirty coal". | |

**6L** Choose the correct preposition. All the prepositions are from text 6.

### Save or spend?

I'm no expert **1** **on** / – / **with** how the economy works. I'm only a poor student, after all. But it seems to me that we're getting mixed messages whenever the subject of capitalism comes **2** **in** / – / **up**. According **3** **to** / – / **after** Naomi Klein, some of the reasons **4** **to** / **for** / **on** the current mess we find ourselves in are hyper-consumption, outsourcing and a misuse **5** **of** / **with** / **for** natural resources. Many agree with her, saying that our current model **6** **of** / – / **with** capitalism is unsustainable. We should all stop buying so much stuff. We don't need it, and it's bad for the environment. But as my economics professor pointed **7** **up** / – / **out**, if we all stop buying tomorrow, the world economy would collapse.

So what should I do? Save? Spend? The clash **8** **with** / **between** / **for** what is right for the economy, right for my pocket, and right for the environment is driving me bonkers.

**6M** Debate. Work in pairs or small groups. Your teacher will show you instructions for a debate. Choose one of the following motions for your debate.

- Where possible, Finns should always buy Finnish products.
- If a business harms the environment, it should not be in business.
- Even if it harms the environment, capitalism is the only system that works.
- It's too late to do anything about climate change. We need to plan for a different world.

**6N** **Listen to the following extracts and news items and choose the correct alternative. Before you listen, read through the question. You will hear each item only once.**

Final exam focus

1 What mistake was made at the riot?
a) Some policemen were mistakenly beaten by other police officers.
b) Identities were checked and many of them were found to be fake.
c) Canadian police officers lost their monitors.

• • •

2 What is the main point of this story?
a) Hindu corporations are comparable to American businesses.
b) American corporations are only after big profits.
c) While cows are important too, India understands the demands of the market economy.

• • •

3 What is the win-win situation in this story?
a) Namibian farmers get rid of unwanted trees, hotels in Dubai get their wood, and Gerard's business flourishes.
b) Wood is scarce in Namibia, but Gerard makes a lot of money as he sells it to countries on the Arabian peninsula.
c) The hotels in Dubai get their wood, Gerard makes a lot of money, but unfortunately all the Namibian trees are cut down.

• • •

4 Degrowth means
a) investing in alternative energy sources.
b) accepting the fact that we cannot afford luxuries any more.
c) reducing our overall consumption.

**6O** **Choose task A or B. Write about 150–250 words.**

A Buy local!
You are giving a speech at a local market. Explain the benefits of buying locally-produced goods and locally-farmed produce.

B Everything I own.
Think about everything you own. Write an essay where you describe the items you absolutely cannot do without, and the things you would give up if you had to. (This includes things your family owns.)

## Topic 7

# Planet watch

The best time to plant a tree was 20 years ago.
The second best time is now.
*(Chinese proverb)*

### Everything changes

*inspired by Brecht's, "Alles wandelt sich"*
*by Cicely Herbert*

Everything changes. We plant
trees for those born later
but what's happened has happened,
and poisons poured into the seas
cannot be drained out again.

What's happened has happened
poisons poured into the seas
cannot be drained out again, but
everything changes. We plant
trees for those born later.

The poem EVERYTHING CHANGES (AFTER BRECHT)
from POEMS FROM THE UNDERGROUND edited by Judith Chernaik,
Gerard Benson and Cecily Herbert, (Penguin Books, 2015).
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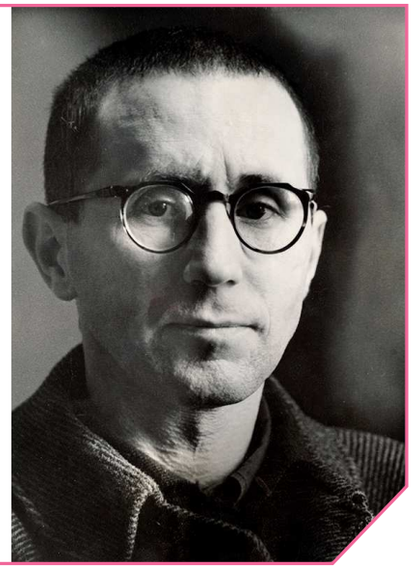
INFO BOX

## Bertolt Brecht

Bertolt Brecht (1898–1956) was a German poet and playwright, whose ideas about theatre still influence today's stage performances. He wanted to make the audience think, and used a range of techniques to remind them that they were watching theatre and not real life.

His poem 'Alles wandelt sich' translates as 'Everything changes'.



**7A** **Read the poem and choose the correct alternative.**

1 What is the general tone of the poem?
   a) Despair because of the deeds we have done to those born later.
   b) Remorse because of we understand what we have done to the seas.
   c) Hope because we still believe it is worth planting trees.

2 The poem has two verses. What would the effect be if the verses were in a different order?
   a) optimistic
   b) depressing
   c) surprising

3 What is the effect of using the pronoun 'we' in the poem?
   a) It suggests that there is nothing we can do to stop climate change.
   b) It suggests that we all are involved in a constant process of change.
   c) It discourages us from acting because there is not much we can do to change things.

**7B** **In pairs or in small groups, discuss the following issues introduced in the poem. Give reasons for your answers.**

- What kinds of things would you like to change in your surroundings?
- If you had the power, name one thing that you would change in the world.
- What things in the world might change in the future regardless of whether we want the change or not?
- What significance do trees and forests have for Finland?
- What are the positive sides of forests and trees for you personally?

## Topic 8

# Climate change

**8A** The consequences of climate change. Read the following article and choose the correct word.

## Hot and bothered

Global **1** **warning** / **warming** is inevitable. Even if greenhouse **2** **radiation** / **emissions** stopped overnight the **3** **concentrations** / **contracts** already in the **4** **terrain** / **atmosphere** would still mean a global rise of between 0.5°C and 1°C over the next 100 years. What we can control, however, is the amount by which those temperatures continue to go up. In other words, we have control of the thermostat that will set the climate for future generations. So what are the environmental **5** **instincts** / **impacts** of those thermostat settings?

### 1°C rise

With a rise of 1°C we can expect the oceans to continue warming. This will result in the Arctic ice **6** **cap** / **cube** melting and a dramatic rise in sea levels. Bad news for island **7** **nationals** / **nations** such as the Maldives which will be completely **8** **shrunk** / **submerged**, and a threat to the hundreds of **9** **landlocked** / **coastal** cities around the world too. Miami, Manhattan and Central London face the risk of serious **10** **flooding** / **floating**, along with Bangkok, Bombay and Shanghai.

Meanwhile, inland the problem will be too little water. As mountains lose their **11** **cover** / **glaciers**, their **12** **runoff** / **runway** will cease to power the massive rivers that deliver vital **13** **freshwater** / **sea water** to hundreds of millions. Water **14** **shortcomings** / **shortages** and **15** **famine** / **harvests** will be the result, destabilising China and the entire Indian subcontinent.

## 2°C rise

A 2°C rise will destroy plant and animal **16** **inhabitants** / **habitats** driving a quarter of all **17** **species** / **people** on land to **18** **extension** / **extinction** – including the iconic **19** **black** / **polar** bear. The loss of **20** **biodiversity** / **biotechnology** will have a knock-on effect as food **21** **chains** / **changes** are disrupted and delicate **22** **atmosphere** / **ecosystems** collapse. Humans too will feel the heat in the form of reduced crop **23** **yields** / **fields** across Africa, south-east Asia, northern South America and the Mediterranean **24** **bottom** / **basin**.

Coral **25** **reefs** / **ridges**, which provide vital **26** **kindergartens** / **nurseries** for many fish are already in trouble due to temperature-induced **27** **bleaching** / **blushing**. This problem will be exacerbated by ocean **28** **acidification** / **migration**, resulting from higher concentrations of carbon **29** **dioxide** / **footprint** in the atmosphere. A rapid rise in the acidity of seawater will not give marine life, which **30** **involved** / **evolved** over millions of years in an ocean with a generally stable pH, sufficient time to **31** **adapt** / **adopt**.

## 3°C rise

Higher temperatures mean greater **32** **condensation** / **evaporation**, further drying out **33** **vegetation** / **vegetables** and **34** **soils** / **ground**. While **35** **reservations** / **reservoirs**, wells and **36** **aquifers** / **aquarium** lose their water, tinder-dry forests and **37** **deserts** / **grasslands** will perish at the first spark. Forest **38** **rangers** / **fires** and **39** **drought** / **draught** will lead to the **40** **desertification** / **deforestation** of huge tracts of once fertile farmland.

**8B** **Fill in the gaps with the help of the Finnish clues. All the words appear in the box.**

| | | | |
|---|---|---|---|
| poles | uninhabitable | mass extinctions | climate refugees |
| ice sheets | deforestation | fossil fuel combustion | organic matter |
| thaw | greenhouse gas | methane | continental interiors |
| microbes | permafrost | feedback loop | |

### 4°C rise

A 4°C rise will trigger a permanent **1** _____ (sulaminen) in the Earth's **2** _____ (ikirouta), a layer of soil or rock that remains frozen all year round. For now, the carbon in permafrost is frozen in the form of various types of **3** _____ (eloperäinen aine). But when permafrost melts, **4** _____ (mikrobit) decompose that organic matter, releasing **5** _____ (metaania), which is a much more potent **6** _____ (kasvihuonekaasu) than carbon dioxide. This will put global warming beyond human control, because further warming leads to further melting which leads to further warming and so on. It is a **7** _____ (kierre) that means we no longer have control of the thermostat. No matter what we do about **8** _____ (metsien hävittäminen), **9** _____ (fossiilisten polttoaineiden polttaminen/palaminen) or farming methods, we will not be able to stabilise global temperatures.

### 5°C rise

We are looking now at an entirely different planet: **10** _____ (mannerjäätiköt) have vanished from both **11** _____ (navoilta), the rainforests have gone, rising seas are rolling into **12** _____ (mantereen sisäosiin), and **13** _____ (joukkokato/joukkosukupuutto) have decimated plant and animal life. As for humans, large parts the world are now **14** _____ (asumiskelvoton), forcing millions of **15** _____ (ilmastopakolainen) to roam the planet in search of food and shelter. Since we do not have another planet to move to, we need to think carefully about where we decide to set that thermostat.

# UNIT 3

## Our Earth

## Topic 9

# All things bright and beautiful

Weeds are flowers too, once you get to know them.
*(A.A. Milne, English writer)*

**9A** Listen to the following instructions on how to stay safe in bear country. Fill in the missing words as you listen.

**YOU ARE _____ BEAR COUNTRY.**

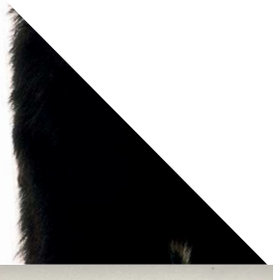
**BE _____.**

**MAKE NOISE.**

**CARRY BEAR SPRAY.**

**_____ HIKING ALONE.**

**DO NOT RUN!**



- If you see a bear – slowly _____.
- If the bear _____ – stand your ground & use your bear spray.
- If the bear attacks during a _____ – play dead.
- If a bear _____ you, then attacks – fight back.
- If a bear attacks you in your tent – fight back.
- There is no _____ in bear country!

**9B** **Work in pairs. Imagine that you have just returned from a trip. Something dangerous happened during the trip. Tell your partner about the incident and how it could have been avoided.**

Here are some possible activities to choose from:

| | | | | |
|---|---|---|---|---|
| hiking | sailing | canoeing | snorkelling | mountain biking |
| skiing | caving | rock climbing | fishing | any other |

- Start the role play using the opening line.
- After one minute, change roles.

Opening line

I went **hiking** last weekend, and guess what happened?

## Personal dictionary

**9C** **Read text 9. Find the words below in the text and underline them.**

- First, guess the meaning of the words, then look them up in the vocabulary app if necessary and write them down on p. 104–105.
- Choose 3–5 extra words and mark them, too.
- Try making sentences with some of the words.

1 beast
2 fertilizer
3 pesticide
4 migration
5 fertility
6 absorption
7 extinct
8 impose on
9 solitary
10 tinge

**9D** **The extracts in text 9 all deal with nature and the environment. Can you guess the text type each extract is taken from? Write the correct letter next to the heading. How did you know what type of text it was?**

A Advertisement
B Art review
C Encyclopaedia entry
D Film review
E Gardening manual
F Joke
G Lyrics
H Novel extract
I Riddle

Topic 9 Text

# Nature, far and wide

## Who am I?

A: What jumps when it walks and sits when it stands?

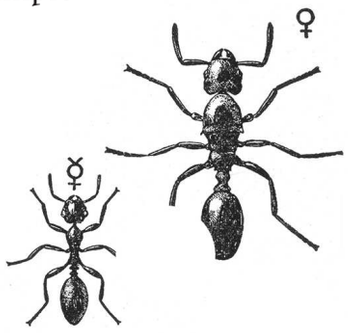
B: Born of water, I drown in water. I cause more deaths than wars.
A bloodthirsty, barely visible beast am I.

C: What walks on four legs in the morning, two legs in the afternoon, three legs in the evening, and no legs at night?

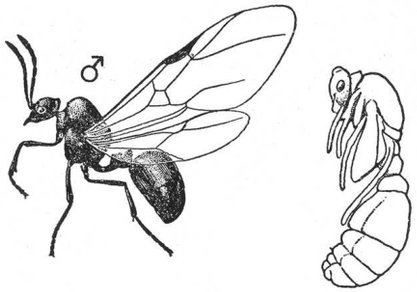
## Organic pest control

The rule that 'healthy soils make healthy plants' holds true, and pests primarily attack weak, unhealthy plants. However, healthy plants may fall victim to pests too, especially if you have used a nitrogen-rich fertilizer. Here are some of the most common problems, and how to deal with them.

First of all, avoid using pesticides. Instead, try these simple home-made remedies:




- Soft-bodied pests like aphids and whitefly: spray with one teaspoon of dishwashing soap to half a litre of water.
- Ants and termites: spray with a mixture of baking soda and dishwashing liquid. Ants attract aphids and other pests to plants, so get rid of them as soon as possible.
- Slugs and snails: pick them off the leaves by hand and destroy them. Or trap them in a saucer filled with beer. Slugs seem to like acidic soil, so spread some lime around the garden to make the soil more alkaline, and unpleasant for the slugs.



## Passionate about pachyderms

Andries Botha creates elephant sculptures using various materials, from driftwood to old car tyres, pebbles and clay. Panel discussions about his work in the UK, South Africa and Canada have looked at the role of art and nature in the public sphere, issues of migration and overpopulation, recycling, the co-existence between wild animals and people, urbanisation and conservation. His sculptures of the huge mammals work as a metaphor on many levels, but on a visceral level they are a celebration of life and survival against all odds.

## Fumbling florist

A new business was opening and one of the owner's friends wanted to send him flowers for the occasion. The flowers arrived at the new business site and the owner read the card: 'Rest in Peace.' The owner was annoyed, and called to complain. "Sir, I'm really sorry for the mistake, and sorry you were offended," said the florist. "But even worse, somewhere there is a funeral taking place today, and they have flowers with a note saying, 'Congratulations on your new location.'"

## Eutrophication

Eutrophication, the gradual increase in the concentration of phosphorus, nitrogen, and other plant nutrients in an aging aquatic ecosystem such as a lake. The productivity or fertility of such an ecosystem increases as the amount of organic material that can be broken down into nutrients increases. This material enters the ecosystem primarily as runoff from land that carries debris and products from the reproduction and death of terrestrial organisms. Blooms, or great concentrations of algae and microscopic organisms, often develop on the surface, preventing the light penetration and oxygen absorption necessary for underwater life.

## Get your Jurassic pot plants here!

Now available at selected nurseries:
Small plants cultivated from the Wollemi Pine.

The saplings, cuttings from surviving Wollemi Pines, are pretty robust. Expert survivors, they can manage in low light and in both low and high temperatures. This makes them perfect indoor plants.

The only known examples of this plant were fossils 175 million years old. We thought the species had been extinct for at least two million years!

In the wild, Wollemi Pines are found in a single isolated spot in the Blue Mountains west of Sydney. The trees' home is a closely guarded secret. Even scientists studying them are blindfolded as they are flown in by helicopter to the site. It's *that* exclusive.

Getting a Wollemi Pine is like having a small, live dinosaur on your property.

## Monkey Kingdom ☐

Three years in the making, it's slightly simplistic, but packed with beautifully shot footage of animals in the wild, in this case a troop of monkeys living among fabulous ruins in the Sri Lankan jungle. For the most part, *Monkey Kingdom* steers clear of excessive anthropomorphizing, but imposing human motives and emotions on wild animals is an unavoidable ploy if you want to grab, and keep, the attention of a younger audience. Narrator Tina Fey brings a welcome dash of humour to the interaction of the monkeys with other jungle creatures such as a solitary leopard, a monitor lizard, and a band of mongooses. On the whole, you couldn't do much better than *Monkey Kingdom* to get street-wise urban kids interested in learning about and protecting the natural world.

## I love the mountains ☐

We walk together.
Hike by the quiet stream.
Watch for the sunrise.
Breathing the air so clean.
When we're together,
Sharing our fondest dreams.

Boom dee ah dah. Boom dee ah dah.

## House of Orphans ☐

The crust of snow was a foot thick, but it was softening and it had a greyish tinge. The first melt was ticking off the eaves, drop by drop. It would freeze again tonight, but the process had begun. The long thaw that's half feared and half desired. All it would reveal at first was scoured brown grass and mud, but then everything would begin. Lilac buds would fatten and birds would shriek and squabble in the bushes, tumbling over and over in the tumult of mating. Sharp, sparse threads of green would push through the brown. You had to face it every year, and then you got used to it. The sight of everything that the snow hides; everything that's flawed or damaged and needs work.

© Helen Dunmore, excerpt from the novel *House of Orphans*, Penguin 2007.

**bloodthirsty** /blʌdθɜːsti/ verenhimoinen
**barely** /beəli/ tuskin, juuri ja juuri, niukasti
**beast** /biːst/

---

**organic** /ɔː'gænɪk/ luomu-, luonnonmukainen, eloperäinen, orgaaninen
**pest** /pest/ tuhoeläin, kiusankappale, maanvaiva
**soil** /sɔɪl/ maaperä, maa; liata
**primarily** /praɪmərəli/ ensisijaisesti, pääasiassa, ennen kaikkea
**nitrogen-rich** /naɪtrədʒən rɪtʃ/ typpirikas
**fertilizer** /fɜːtɪlaɪzə/

---

**pesticide** /pestɪsaɪd/

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**remedy** /remədi/ lääke, hoito, parannuskeino
**aphid** /eɪfɪd/ kirva
**whitefly** /waɪtflaɪ/ jauhiainen
**ant** /ænt/ muurahainen
**termite** /tɜːmaɪt/ termiitti
**baking soda** /beɪkɪŋ səudə/ ruokasooda
**liquid** /lɪkwɪd/ neste
**slug** /slʌg/ etana
**snail** /sneɪl/ etana, kotilo
**trap** /træp/ pyydystää; ansa, loukku
**saucer** /sɔːsə/ lautanen
**acidic** /ə'sɪdɪk/ hapan, hapokas
**lime** /laɪm/ kalkki, lehmus, limetti
**alkaline** /ælkəlaɪn/ emäksinen
**pachyderm** /pækɪdɜːm/ paksunahkainen
**sculpture** /skʌlptʃə/ veistos
**driftwood** /drɪftwud/ ajopuu
**pebble** /pebl/ pikkukivi
**clay** /kleɪ/ savi
**public** /pʌblɪk/ julkinen, yleinen
**sphere** /sfɪə/ ala, alue, piiri
**migration** /maɪg'reɪʃn/

---

**overpopulation** /ˌəuvəpɒpju'leɪʃn/ liikakansoitus
**recycling** /ˌriː'saɪklɪŋ/ kierrätys
**co-existence** /ˌkəuɪg'zɪstəns/ rinnakkaiselo, yhteiselo
**urbanisation** /ˌɜːbənaɪ'zeɪʃn/ kaupungistuminen
**conservation** /ˌkɒnsə'veɪʃn/ ympäristönsuojelu, suojelu, säilyttäminen
**mammal** /mæml/ nisäkäs
**metaphor** /metəfə, metəfɔː/ metafora, kielikuva
**visceral** /vɪsərəl/ tunne-, tunnetason, syvällinen, sisäelin-
**against all odds** /əgenst ɔːl ɒdz/ vastoin kaikkia odotuksia
**fumbling** /'fʌmblɪŋ/ tunaroiva, kompuroiva
**offended** /ə'fendɪd/ loukkaantunut, pahoittanut mielensä
**eutrophication** /juːˌtrɔufɪ'keɪʃn/ rehevöityminen
**gradual** /grædʒuəl/ vähittäinen, asteittainen
**concentration** /ˌkɒnsən'treɪʃn/ pitoisuus, väkevyys, keskittyminen
**phosphorus** /fɒsfərəs/ fosfori
**nitrogen** /naɪtrədʒən/ typpi
**nutrient** /njuːtrɪənt, nuːtrɪənt/ ravinne, ravintoaine
**aquatic** /ə'kwætɪk/ vesi-
**fertility** /fə:'tɪlɪti/

---

**runoff** /rʌnɒf/ valuminen, valuma
**debris** /debriː, də'briː/ pirstaleet, jäänteet, jätteet
**reproduction** /ˌriːprə'dʌkʃn/ lisääntyminen, kopio, jäljennös
**terrestrial** /tɪ'restrɪəl/ maanpäällinen, maa-
**organism** /ɔːgənɪzm/ eliö
**bloom** /bluːm/ kukinta, kukka, kukoistus; kukkia, kukoistaa
**algae** /ældʒiː/ levät
**surface** /sɜːfɪs/ pinta
**prevent** /prɪ'vent/ estää
**penetration** /ˌpenɪ'treɪʃn/ läpäisy, tunkeutuminen, läpäisykyky, ymmärrys
**oxygen** /ɒksɪdʒən/ happi
**absorption** /əb'zɔːpʃn/

---

**Jurassic** /dʒuræsɪk/ jurakausi
**pot plant** /pɒt plɑːnt, plænt/ ruukkukasvi
**nursery** /nɜːsəri/ taimitarha, taimisto, lastentarha, lastenhuone
**cultivate** /kʌltɪveɪt/ viljellä, kehittää, jalostaa, sivistää

**pine** /paɪn/ mänty
**sapling** /sæplɪŋ/ taimi
**cutting** /kʌtɪŋ/ pistokas, leikattu pala, hakkuu, leikkaaminen; leikkaava, terävä, pureva
**robust** /rəu'bʌst/ vankka, vahva, roteva
**species** /spiːʃiːz/ laji, lajit
**extinct** /ɪk'stɪŋkt/

---

**in the wild** /ɪn ðə waɪld/ luonnossa
**isolated** /aɪsəleɪtɪd/ syrjäinen, eristäytynyt, eristetty, yksinäinen
**guard** /gɑːd/ vartioida, varjella suojella; vartija, suoja
**blindfold** /blaɪndfəuld/ sitoa silmät; silmäside
**exclusive** /ɪks'kluːsɪv/ valikoiva, rajattu, yksinoikeutettu, tasokas
**property** /prɒpəti/ tontti, kiinteistö, omaisuus, ominaisuus
**footage** /futɪdʒ/ kuvamateriaali, filmiaineisto
**a troop of monkeys** /ə truːp əv mʌŋkiːz/ apinalauma
**ruin** /ruːɪn/ raunio, rappio; tuhota, raunioittaa, pilata
**steer clear of** /stɪə klɪə əv/ välttää
**anthropomorphizing** /ˌænθrəpəmə'faɪzɪŋ/ inhimillistäminen, inhimillisten ominaisuuksien liittäminen esim. eläimiin
**impose on** /ɪm'pəuz ɒn/

---

**unavoidable** /ˌʌnə'vɔɪdəbl/ väistämätön
**ploy** /plɔɪ/ juoni, temppu, metku, harrastus
**dash** /dæʃ/ hyppysellinen, tilkka, ajatusviiva
**solitary** /sɒlɪtri/

---

**monitor lizard** /mɒnɪtə lɪzəd/ varaani
**a band of mongooses** /ə bænd əv mɒŋguːsɪz/ mangustilauma
**fond** /fɒnd/ mieluinen, rakas, harras
**crust** /krʌst/ hanki, kuori, leipä, kannikka; peittää kuorella
**tinge** /tɪndʒ/

---

**eaves** /iːvz/ räystäs
**thaw** /θɔː/ sulaminen, lauhtuminen; alkaa sulaa, lauhtua
**scoured** /skauəd/ hankaantunut
**lilac** /laɪlək/ syreeni, syreeninkukka; liila, violetti
**bud** /bʌd/ nuppu, silmu; olla nupulla
**shriek** /ʃriːk/ kirkua, rääkäistä; kirkaisu, kirkuna, rääkäisy
**squabble** /skwɒbl/ kinastella, nahista; kinastelu
**tumble over** /tʌmbl əuvə/ kellahtaa
**tumult** /tjuːmʌlt/ sekasorto, myllerrys
**mating** /meɪtɪŋ/ parittelu
**sparse** /spɑːs/ harva, niukka
**flawed** /flɔːd/ viallinen, puutteellinen

## 9E Answer questions 1–5 in Finnish and 6–8 in English.

1 Mitkä ovat arvoitusten vastaukset?
2 Millaisiin kasveihin tuhoeläimet iskevät?
3 Mitä eri kotikonsteja teksti neuvoo käyttämään tuhoeläinten torjumiseen? Mainitse vähintään kolme.
4 Millaisia asioita Andries Bothan veistokset käsittelevät? Mainitse vähintään neljä.
5 Mistä järvien rehevöityminen johtuu ja mitä se usein aiheuttaa?
6 What is special about the Wollemi Pine pot plants? Mention at least three things.
7 What is the critic's view of the film *Monkey Kingdom*?
8 What phenomenon is the narrator describing in the extract *House of Orphans*? How do you feel about this phenomenon?

## Phrase hunt

**9F** **Find the following expressions in the text.**

1 pitää paikkansa _____

2 saattavat joutua tuhoeläinten uhriksi

_____

3 vastoin kaikkia odotuksia _____

4 vähittäinen lisääntyminen _____

5 tarkoin varjeltu salaisuus _____

6 herättää ja pitää yllä nuoremman yleisön huomio

_____

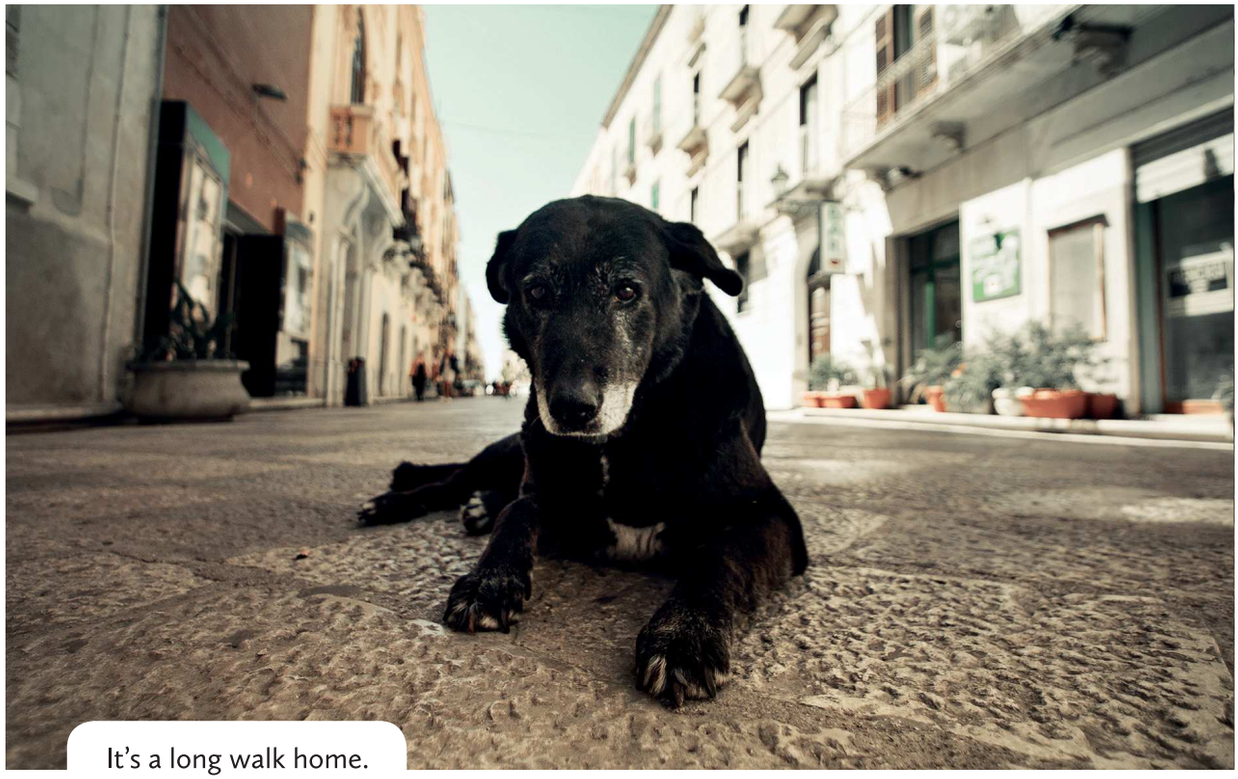
7 Kaiken kaikkiaan _____

8 Jakaen hartaimmat toiveemme _____

9 pisara pisaralta _____

10 kaikki, mikä on viallista

_____



It's a long walk home.

**9G** **Fill in the gaps by choosing the correct phrases from exercise 9F. The phrases may need to be changed a little.**

**Ermesinde, Portugal:** Unlike many people, and **1** _____ _____ (vastoin kaikkia odotuksia), Preta the dog faithfully attends church. She leaves her owner's home every Sunday morning at 5 a.m. and walks 16 miles to the neighbouring town to attend the service there. She takes her usual place next to the altar for the 7.30 mass, and whenever the worshippers stand or sit during the service, Preta does the same.

At first, Preta's attendance was a **2** _____ (tarkoin varjeltu) secret. The priest understandably did not want the church to **3** _____ (joutua uhriksi) hordes of sightseers who might disrupt the service to take pictures of Preta. But Preta soon **4** _____ (herätti huomion) of the media, and her story appeared in the newspaper.

"At first, many people just came to see Preta, but there has also been a gradual **5** _____ (kasvu) church attendance in general. So, **6** _____ (kaiken kaikkiaan), Preta's attendance has been a blessing," the priest said. Preta's behaviour confirms **7** _____ (kaiken, mitä) we know about dogs – they are faithful to a fault. To him, the old saying "Dogs usually behave better than people" really **8** _____ (pitää paikkansa).

*(From the Reuters archives)*

**9H** Match the adjectives that are opposite in meaning and translate them into Finnish. Most of the adjectives appear in text 9.

| | | Finnish | | | Finnish |
|---|---|---|---|---|---|
| 1 | aquatic _____ | _____ | A | artificial | _____ |
| 2 | alkaline _____ | _____ | B | hidden | _____ |
| 3 | exclusive _____ | _____ | C | flawed | _____ |
| 4 | living _____ | _____ | D | weak | _____ |
| 5 | organic _____ | _____ | E | rational | _____ |
| 6 | perfect _____ | _____ | F | sparse | _____ |
| 7 | robust _____ | _____ | G | extinct | _____ |
| 8 | abundant _____ | _____ | H | public | _____ |
| 9 | visceral _____ | _____ | I | acidic | _____ |
| 10 | visible _____ | _____ | J | terrestrial | _____ |

**9I** Choose 5 words from exercise 9H and make sentences to illustrate their meaning.

These linking words may help you.

An exclusive event is limited to only a few people, ...
... **whereas** a public event is open to everyone.
... **but** a public event is open to everyone.

An exclusive event is limited to only a few people.
**However**, a public event is open to everyone.
**On the other hand**, a public event is open to everyone.

## 9J Choose the word that does *not* naturally go with the first word. The first one has been done for you.

| | | |
|---|---|---|
| 1 | rest | my case / in peace / on our laurels / ~~for your life~~ |
| 2 | cause | remedies / deaths / problems / diseases |
| 3 | cultivate | crops / plants / temperatures / organisms |
| 4 | control | pests / migration / emotions / survival |
| 5 | create | sculptures / noise / elements / business |
| 6 | grab | the attention / a ploy / the audience / a bite |
| 7 | fall | victim to / on the occasion / into place / on deaf ears |
| 8 | hold | back / still / right / true |
| 9 | protect | the ecosystem / overpopulation / the environment / wildlife |
| 10 | steer | top to toe / away from / clear of / towards |

## 9K Choose the correct preposition. All prepositions appear in text 9.

**Maggie lives in Glasgow. She went to visit her friend Ian in Melbourne.**

Ian: How was your first day in Melbourne? I'm sorry I couldn't join you.

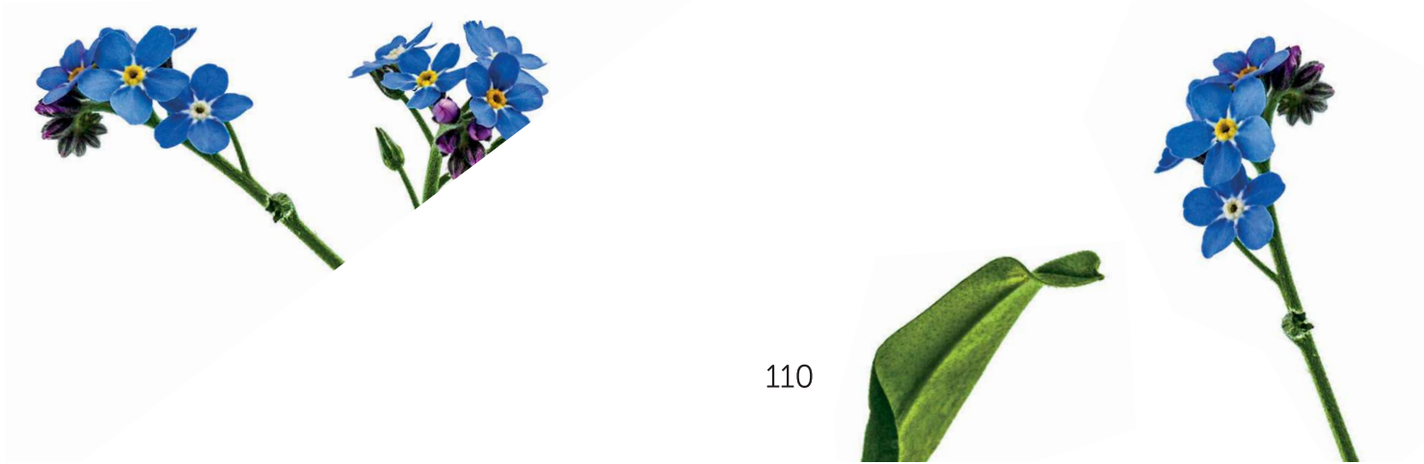
Maggie: No problem! I had a good time. I'm really interested **1** **about / of / in** Australian animals, so I went to the zoo **2** **at / in / on** the morning. You know, that place east **3** **of / – / in** the city? I wonder if they're open in the evenings. Some animals are more active **4** **in / at / on** night, aren't they? Also, it was packed **5** **with / – / of** school groups and toddlers running around. It might be more quiet in the evenings.

Ian: You mean Healesville Sanctuary? I've never been there. I avoid **6** **of / – /on** visiting zoos on principle. I think it's much better to look **7** **– / at / on** animals **8** **around / – / in** the wild. Locking up animals is just wrong **9** **with / on / in** so many levels, I can't even begin to list them all. I'm surprised you went, Maggie!

Maggie: This place is different. They take good care of the animals there. Besides, if it wasn't for zoos, many people would never get to see wild animals. You won't find a pair of koalas hanging **10** **on / around / from** your suburban garden, will you?

**9L** The following questions and answers are examples from a gardening website. In pairs, decide which one of you is A and B. Cover the other half. Take turns translating the sentences into English.

| | A | B |
|---|---|---|
| 1 | **Could you give me some tips on how to get rid of pests that / which attack plants?** | Voitko antaa minulle vihjeitä miten päästä eroon tuhoeläimistä, jotka käyvät kasvien kimppuun? |
| 2 | Ensinnäkin, sinun pitäisi käyttää luomu-tuotteita ja välttää tuholaismyrkkyjen levittämistä. | **First of all, you should use organic products and avoid spreading pesticides.** |
| 3 | **I use only organic fertilizers but insects / bugs are still a big problem.** | Käytän vain luonnonmukaisia lannoitteita mutta hyönteiset ovat silti iso ongelma. |
| 4 | Ruokasoodan ja astianpesuaineen sekoitus toimii hyvin muurahaisia ja termiittejä vastaan. | **A mixture of baking soda and dishwashing liquid works very well against ants and termites.** |
| 5 | **Do you know any other simple home-made remedies (that) I could use around / in my garden?** | Tiedätkö mitään muita yksinkertaisia kotitekoisia parannuskeinoja, joita voisin käyttää puutarhassani? |
| 6 | Jos puutarhasi kärsii etanaongelmasta, levitä vähän kalkkia maaperään, jotta siitä tulee vähemmän hapanta. | **If your garden suffers from a slug/snail problem, spread some lime on the soil to make it less acidic.** |
| 7 | **The snow has just melted and revealed that my garden is nothing but brown grass and mud. What should I do?** | Lumi on juuri sulanut ja paljastanut, että puutarhani ei ole muuta kuin ruskeaa ruohoa ja mutaa. Mitä minun pitäisi tehdä? |
| 8 | On vaikea tottua tähän näkyyn talven jälkeen. Puutarhasi kasvaa takaisin entiseen loistoonsa. | **It's difficult to get used to this sight after winter. Your garden will grow back to its former glory.** |



**9M** **Work in pairs. Toss a coin to move on the board.**

- Heads = move one square, tails = move two squares.
- If you land on a green square, you list as many positive things about the topic as possible.
- If you land on a red square, you list as many negative things as possible. You get a point for each item mentioned.
- The player who has the most points at the end of the game wins.

| | | | | |
|---|---|---|---|---|
| **START** → | gardening | snow | travelling | insects ↓ |
| singing ↓ | nature documentaries | zoos | spring ← | silence ↓ |
| birds → | jungle | hiking | urbanisation | trees ↓ |
| **FINISH** | slugs | frogs | fertilizers ← | organic food |

**9N** **Listen to the news report about a yeti conference in Siberia. Take notes on how the following words are relevant in the story. In pairs, retell the story using the words.**

1 Tashtagol
2 Neanderthal men

• • •

3 Azasskaya cave
4 several hairs

• • •

5 sasquatch
6 Michigan

• • •

7 media campaign
8 “the beast from the east”

Why would the authorities of the Kemerovo region promote this unlikely story?

INFO BOX

## The strange world of collective animal names

In the film review of *Monkey Kingdom*, the writer used the expressions 'a troop of monkeys' and 'a band of mongooses'. The English language has a wide range of collective nouns for different animal groups. In *On Track 1* we looked at some of them, e.g. 'a pride of lions' and 'a swarm of insects'. Here are some more unusual examples:

an army of frogs
a gang of elks
a mob of kangaroos
a tower of giraffes
a colony of ants
a lounge of lizards
a school of dolphins
a wisdom of wombats

A conspiracy of lemurs.

**90** **Choose task A, B or C. Write about 150–250 words.**

A The healing power of nature
What are the benefits of being surrounded by nature?
How can being outdoors improve your health?

B Why spend your holiday at a summer cabin?
You recently read an online comment by a teenager who dislikes going to the family summer cabin. They complained that there is nothing to do, that they are in the middle of nowhere and the mosquitoes are constantly biting them. Write a response to this comment.

C Write a review of a nature film or documentary.

## Topic 10

# Trees

If trees gave off wifi signals, we'd be planting
so many trees that we'd probably save the planet.
Too bad they only produce the oxygen we breathe.
*(Unknown)*

**10A** **The see-through tree. Listen to a guide talking to a group of tourists in a botanical garden in Western Australia.**

**Work in pairs. Answer one question each. Decide who takes question number 1 and who takes number 2. Answer in English.**

1 While you listen, write down three characteristics of the jarrah tree.
2 Explain how the eucalyptus tree preserves moisture.

- What was the most interesting, or the strangest thing you learnt from the listening activity? Discuss this with your partner.

Walk among the treetops in Kings Park and Botanic Gardens. Perth, Australia.

**10B** **Take our quick quiz to discover how much you know about trees. Choose the correct alternative. Give yourself one point for each correct answer.**

| | | | |
|---|---|---|---|
| 1 | You can tell the age of a tree from its... | bark. | rings. |
| 2 | What are the tallest trees in the world? | redwoods | Douglas firs |
| 3 | The original ancestors of our apple trees can still be found in... | the UK. | Kazakhstan. |
| 4 | In which work of fiction do trees fight a battle? | The Harry Potter series | The Lord of the Rings |
| 5 | What is the Japanese word for a miniature tree? | origami | bonsai |
| 6 | A botanical garden devoted to trees is called... | an arboretum. | a hothouse. |
| 7 | In 1912, the mayor of Tokyo gave 3,000 trees to the city of Washington DC as a gift of friendship. What kind of tree was it? | maple trees | cherry trees |
| 8 | The national tree of Finland is the... | birch. | pine. |
| 9 | What is the most common type of tree in Australia? | thorn trees | eucalyptus |
| 10 | What do trees absorb from the atmosphere? | oxygen | carbon dioxide |

_____ / 10 points

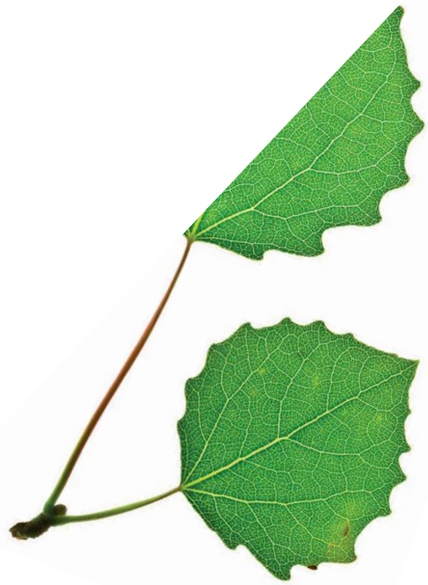
### What your score means

**8–10** Tree hugger! The planet needs more people like you.
**5–7** Not bad. Up your game and date a tree hugger. Or plant a tree today.
**1–4** Oh dear. Read up on the importance of trees, please. Fewer trees, less oxygen. You get that, right?

## 10C Match the English and Finnish names for trees.

### Up close and Finnish: The importance of *puu*.

| | | | |
|---|---|---|---|
| 1 | aspen _____ | A | kataja |
| 2 | birch _____ | B | kuusi |
| 3 | juniper _____ | C | pihlaja |
| 4 | oak _____ | D | haapa |
| 5 | pine _____ | E | mänty |
| 6 | rowan _____ | F | paju |
| 7 | spruce _____ | G | tammi |
| 8 | willow _____ | H | koivu |



Which of these trees are

- deciduous (lehtipuu) and
- coniferous (havupuu)?

Are there any other trees that you think should be added to the list? Look them up in the dictionary and add them here.

_____

_____

## Personal dictionary

## 10D Read text 10. Find the words below in the text and underline them.

- First, guess the meaning of the words, then look them up in the vocabulary app if necessary and write them down on p. 121–122.
- Choose 3–5 extra words or phrases and mark them, too.
- Try making sentences with some of the words.

| | | | |
|---|---|---|---|
| 1 | bark | 5 | germinate |
| 2 | incident | 6 | aerial |
| 3 | fodder | 7 | canopy |
| 4 | escort | 8 | notable |

## Topic 10 Text

# Standing tall

**Dendrologist and self-confessed tree-hugger, Rachel Marley, has always been into trees, in both senses of the word. Growing up on a farm in Western Australia, she started climbing trees almost as soon as she could walk. Today, she works as a researcher at the Edith Cowen University (ECU) in Perth, Australia and regularly writes about trees.**

### Trees are machines

The other day, a ghost gum (a type of eucalyptus tree with very white bark) was being chopped down in a park near my apartment in Perth. Horrified, I called the office responsible. I'm afraid I made rather a scene. "What are you doing?!" I fumed. "That tree is more than a hundred years old!" It turned out that the tree had some disease, and that the city council had a good reason for taking it down. But the incident got me thinking, once again, about the importance of trees.

I started to make a short (and therefore incomplete) list of some of the things trees provide: incense, poisons, resins, varnishes and industrial oils. Glues and dyes and paints, many different types of gum (including chewing gum), and a host of fibres, including paper. It struck me that trees are in some way just like machines – a forest is like a factory filled with machines producing all these different things. You will notice that this list does not include the thousand-plus different kinds of fruits, nuts and fodder for animals. Neither does it include what is arguably the most important product of all: timber. I could, and in fact did, write an entire PhD thesis on the historical influence of wood. You don't have to read my PhD. I'll give you a hint: the influence on humanity is absolute. Think back, way back: fire, fishing rods, log cabins, spears, ships ... In short, without wood, our world would be a very different place indeed. But rather than try and convince you of the importance of trees, I thought I'd let the trees speak for themselves. Allow me to introduce some remarkable trees to you.

**10E** Choose the statement that is closest in meaning to what is said in the paragraph above.

1 When calling the office about the ghost gum tree, Rachel was
   a) apologetic.
   b) furious.
   c) regretful.

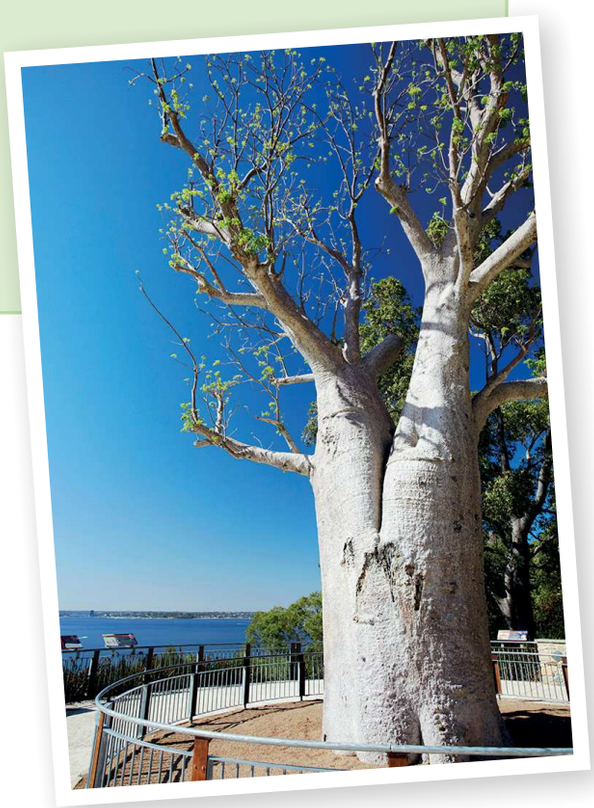
2 Which of these statements is the closest in meaning to what Rachel writes in her blog?
   a) Rachel stresses the importance of technology with regard to trees.
   b) The importance of trees cannot be overestimated.
   c) It is important that a larger audience learns more about trees.

### Gija Jumulu: traveller

Gija Jumulu is a 750-year-old giant boab in Kings Park in Perth. Boabs can be more than 2,000 years old, so this tree is still relatively young. The story of Gija Jumulu got worldwide media coverage when the tree travelled over 3,200 kilometres from the Kimberley region to Perth. When the tree had to be removed due to the construction of a bridge over the Great Northern Highway, the local Gija people gifted the tree to the people of Perth.

→

Native to the Kimberley region, boabs are highly valued by Aboriginal people for their edible fruit, medicinal uses and water-holding properties, so simply cutting the tree down was never an option. Moving a mature, 37-ton tree was no easy matter. It took a 25-metre truck trailer, two traffic lanes and a police escort. A group of elderly Gija women was flown down to Perth to attend the planting ceremony, where they performed a traditional smoking ceremony and softly sang to the tree in front of 3,000 people to help "Gija Jumulu settle in". The tree is well looked after – it has special sensors imbedded in the trunk to measure the state of its health at all times.



3 What is true about Gija Jumulu?

a) It was prohibited by law to cut it down.
b) Native Australians arranged the removal of the tree to Perth.
c) In order to save it, Native Australians donated the whole tree, roots and all, to Kings Park.

## Methuselah: grandfather

It's hard to imagine just how long this bristlecone pine has been around. Estimated at 4,848 years old, the aptly-named Methuselah has seen the rise and fall of entire civilizations. It probably germinated at about the time that human beings invented writing, and so it is at least as old as all of our written history. It would have been a seedling when the pyramids in Egypt were being constructed, a teenager at the birth of Christ, mature at the time when the first sawmills appeared in Europe, and ancient by the time Columbus first made Europe aware that the Americas exist.

Contrary to what you might expect, this is not a very big tree at all. In order to protect it, its exact location in the White Mountains in California is kept a close secret. You can visit the grove where Methuselah hides, but as the tree is not marked in any way, you'll have to guess which one it is, so I cannot introduce you personally.

4 Methuselah
a) has been given a name that suits the tree well.
b) was probably a medium-sized tree at the time when pyramids were being built.
c) grows on a mountain top.

### The Great Banyan: cyclone survivor

Banyans are very odd-looking trees. Due to the peculiar way in which they grow, it is impossible to distinguish the trunk and branches from the roots. A large banyan tree can have thousands of aerial roots, and it looks like a small forest. Meet the 250-year-old Great Banyan tree of Kolkata. It's mentioned in the Guinness Books of Records as the widest tree in the world in terms of the area its canopy covers. The crown of the Great Banyan has a circumference of about 400 metres. Or, to explain it another way, this tree is bigger than the average Walmart store. Scientists are surprised that the tree is still alive after it was hit by cyclones in 1884 and again in 1886. The main trunk, split open by the cyclones, was removed in 1925. Yet the tree still flourishes to this day.

5 The Great Banyan
a) survived two cyclones but a third one felled it.
b) still carries fruit.
c) has no central trunk.

→

### The African Queen: provider

This tree, a sycamore fig, stands in a park near my friend's house in Bahir Dar, Ethiopia. I want to introduce her to you because she is the most generous tree on the continent: no other tree in Africa feeds a greater variety of animals and insects than she does. Also, she has some very interesting traits. She pays no attention to the seasons and drops her leaves whenever she pleases. She appears never to flower, yet she mysteriously produces a ton of fruit several times a year. She protects her leaves and fruit by producing a latex that is both sticky and foul-tasting. Strangest of all is her symbiotic relationship with the tiny fig wasp (so small it can fly through the eye of a needle) on whom her very survival depends.

6 The sycamore fig
a) is described as generous because it gives people a lot of fruit.
b) has an interdependent connection with the small fig wasp.
c) protects itself from insects and animals by emitting a foul smell.

### Coming soon...

I have left out many other notable trees. I'll introduce them to you soon. Watch this space!

A feast of sycamore figs.

**dendrologist** /den'drɒlədʒɪst/ puulajitieteilijä, dendrologi
**self-confessed** /ˌselfkən'fest/ itsensä julistama
**ghost gum** /gəust gʌm/ arkinimi eukalyptus-puille, tunnusmerkkinä hyvin vaalea kuori
**bark** /bɑːk/

---

**chop down** /tʃɒp daun/ kaataa
***make a scene** /meɪk ə siːn/ järjestää kohtaus
**fume** /fjuːm/ puhista raivosta, höyrytä; höyry
**disease** /dɪ'ziːz/ sairaus, tauti
**city council** /sɪti kaunsl/ kaupunginvaltuusto
**incident** /ɪnsɪdənt/

---

**therefore** /ðeəfɔː/ siten, siksi, sen vuoksi
**incense** /ɪnsens/ suitsuke, suitsutus; suututtaa
**poison** /pɔɪzn/ myrkky; myrkyttää
**resin** /rezɪn/ hartsi, pihka
**varnish** /vɑːnɪʃ/ vernissa, lakka; lakata
**glue** /gluː/ liima; liimata
**dye** /daɪ/ väriaine; värjätä
**gum** /gʌm/ kumi, liima, pihka, ien, purukumi
**fibre** /faɪbə/ kuitu, säie, syy
**fodder** /fɒdə/

---

**arguably** /ɑːgjuəbli/ luultavasti
**timber** /tɪmbə/ puu, puutavara
**PhD thesis** /ˌpiː eɪtʃ'diː θiːsɪs/ tohtorinväitöskirja
**humanity** /hjuː'mænɪti/ ihmiskunta, ihmisyys, humaanisuus
**absolute** /æbsəluːt/ kiistaton, vastaansanomaton, täydellinen, rajaton
**fishing rod** /fɪsɪŋ rɒd/ ongenvapa
**log cabin** /lɒg kæbɪn/ hirsimökki
**spear** /spɪə/ keihäs; keihästää
**convince** /kən'vɪns/ vakuuttaa, tehdä vakuuttuneeksi
**remarkable** /rɪ'mɑːkəbl/ huomattava, merkittävä
**boab** /bəu'æb/ apinanleipäpuu
**worldwide** /wɜːldwaɪd/ maailmanlaajuinen
**media coverage** /miːdɪə kʌvərɪdʒ/ medianäkyvyys

**region** /riːdʒən/ alue, seutu, tienoo
**remove** /rɪ'muːv/ viedä pois, poistaa, erottaa
**construction** /kən'strʌkʃn/ rakentaminen
**gift** /gɪft/ lahjoittaa; lahja
**value** /vælјuː/ arvostaa; arvo
**edible** /edɪbl/ syötävä, syömäkelpoinen
**medicinal** /me'dɪsɪnl/ lääketieteellinen
**water-holding** /wɔːtə həuldɪŋ/ vettä varastoiva
**property** /prɒpəti/ ominaisuus, omaisuus, varallisuus, tila, tontti
**mature** /mə'tjuə/ täysikasvuinen, kypsä
**trailer** /treɪlə/ perävaunu, täysperävaunu
**escort** /eskɔːt; ɪs'kɔːt/

---

**elderly** /eldəli/ vanhahko
**perform** /pə'fɔːm/ esittää, tehdä, suorittaa
**settle in** /setl ɪn/ asettautua aloilleen
**look after** /luk ɑːftə, æftə/ pitää huolta
**sensor** /sensə/ anturi, tuntoelin, aistin, sensori
**imbed** /ɪm'bed/ upottaa, iskostaa, juurruttaa
**trunk** /trʌŋk/ runko, puunrunko, auton tavaratila, matka-arkku
**state** /steɪt/ tila, kunto, olomuoto, valtio; sanoa, todeta
**bristlecone pine** /brɪslkəun paɪn/ okakäpymänty, pohjoisamerikkalainen mäntylaji
**aptly-named** /æptli neɪmd/ osuvasti nimetty
**rise and fall** /raɪz ənd fɔːl/ synty ja tuho
**civilization** /ˌsɪvɪlaɪ'zeɪʃn/ sivistys, kulttuuri, sivilisaatio
**germinate** /dʒɜːmɪneɪt/

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**seedling** /siːdlɪŋ/ taimi, siementaimi
**sawmill** /sɔːmɪl/ saha
**appear** /ə'pɪə/ ilmestyä, tulla näkyviin, näyttäytyä
**ancient** /eɪnʃənt/ ikivanha, muinainen
**contrary to** /kɒntrəri tə/ vastainen, vastakkainen; vastoin, toisin
**grove** /grəuv/ metsikkö, lehto
**introduce** /ˌɪntrə'djuːs/ esitellä
**banyan** /bænjən/ banianviikuna, banianiviikuna
**cyclone** /saɪkləun/ trooppinen hirmumyrsky, trooppinen sykloni

→

**odd-looking** /ɒdlukɪŋ/ kummalliselta näyttävä
**peculiar** /pɪ'kjuːlɪə/ kummallinen, merkillinen, poikkeuksellinen
**distinguish** /dɪ'stɪŋgwɪʃ/ erottaa
**branch** /brɑːntʃ, bræntʃ/ oksa, haara; haarautua
**root** /ruːt/ juuri; juurruttaa
**aerial** /eərɪəl/

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**in terms of** /ɪn tɜːmz əv/ suhteessa
**canopy** /kænəpi/

---

**circumference** /sə'kʌmfrəns/ ympärysmitta, kehä, ympärys
**split** /splɪt/ halkaista, jakaa
**flourish** /flʌrɪʃ/ kukoistaa, menestyä, viihtyä
**sycamore fig** /sɪkəmɔː fɪg/ sykomori, sykomoriviikunapuu
**generous** /dʒenərəs/ antelias, runsas, reilu, jalosukuinen
**insect** /ɪnsekt/ hyönteinen
**trait** /treɪt/ piirre, luonteenpiirre
**season** /siːzn/ vuodenaika
**flower** /flauə/ kukkia; kukka
**mysteriously** /mɪ'stɪərɪəsli/ mysteerisesti
**produce** /prə'djuːs, prə'duːs; prɒdjuːs, prɒduːs/ tuottaa; tuotteet, tuotanto, tuote
**latex** /leɪteks/ maitiaisneste, luonnonkumi
**sticky** /stɪki/ tahmea, tukala, tahmainen
**foul-tasting** /faul teɪstɪŋ/ pahalta maistuva
**symbiotic** /sɪmbaɪɒtɪk/ symbioottinen
**fig wasp** /fɪg wɒsp/ viikunapistiäinen
**needle** /niːdl/ neula, neulanen
**notable** /nəutəbl/

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INFO BOX

## What is the difference between a forest and a wood?

Both words refer to a dense collection of trees in the wild. Forests are generally bigger than woods. The canopy is much denser in forests than in woods, so they are darker, and often wilder, than woods. Woods normally have deciduous trees.

It also depends on where you are. In the tropics, for example, the word *forest* is typically used.

## 10F Read text 10 and answer the questions.

1 Take a look at the underlined sentence in the text. What does it mean?
Rachel Marley has always been into trees, in both senses of the word.

2 In your own words, explain why the elderly Gija women sang to Gija Jumulu.
3 Many people would like to see the oldest tree in the world.
Why is it not marked in any way?
4 Why does Rachel say it's "mysterious" that the sycamore fig produces a ton of fruit?
5 In your opinion, why does Rachel say that the influence of trees on humanity has been "absolute"? What would our lives have been like if we had not had wood?

## Phrase hunt

## 10G Find the following expressions in the text.

1 Tajusin, että _____

2 Eikä se sisällä myöskään

_____

3 vaikutus ihmiskuntaan _____

4 Mutta mieluummin kuin yrittää vakuuttaa sinua

_____

5 ovat todella arvostettuja _____

6 ei ollut helppoa _____

7 Vastoin odotuksiasi _____

8 varjellaan salaisuutena _____

9 ruokkii suuremman määrän eläimiä

_____

10 monta kertaa vuodessa _____

**10H** Fill in the gaps with the help of the Finnish clues. All the expressions are from exercise 10G. You may have to change them a little.

### Central Park

I live in Manhattan, New York. I don't know what I'd do without the trees and bushes that help make the concrete jungle a bit more humane. Central Park is probably the most famous, and certainly the green area that is most **1** _____ (todella arvostavat) by New Yorkers. As I was walking around the Park the other day, **2** _____ (tajusin) that with over 25,000 trees growing there, Central Park probably has **3** _____ _____ (suurempi joukko puita) than any other park in New England.

I go to the Park **4** _____ (useita kertoja viikossa), and **5** _____ (vastoin odotuksiasi), I go there come rain or shine. Unlike the location of some rare trees in New York State, which are **6** _____ (varjellaan salaisuutena), the trees in Central Park are all clearly marked on the map. **7** But _____ _____ (mieluummin kuin yrittää vakuuttaa sinua) further of the value of this green space in central New York, why not go online and discover for yourself what the Park is like?

**10I** Synonyms. Match the following synonyms. All the words in column B appear in the section *Trees are machines* in text 10.

| A | | B | |
|---|---|---|---|
| 1 | episode _____ | A | notice |
| 2 | motive _____ | B | absolute |
| 3 | partial _____ | C | incident |
| 4 | total _____ | D | influence on |
| 5 | in a nutshell _____ | E | incomplete |
| 6 | special _____ | F | reason |
| 7 | effect on _____ | G | in short |
| 8 | toxins _____ | H | it struck me |
| 9 | I noticed _____ | I | remarkable |
| 10 | observe _____ | J | poisons |

Work in pairs. Make sentences where you use words from the list.

**10J** Idioms. Connect the beginnings and endings to form expressions that deal with trees. In pairs, either explain in English what the expressions mean, or try to find an equivalent expression in Finnish.

| | | | |
|---|---|---|---|
| for the trees | on wood | you break | wrong tree |
| the olive branch | roots | a new leaf | your roots |

| | | | |
|---|---|---|---|
| 1 | knock _____ | 5 | turn over _____ |
| 2 | connect with _____ | 6 | put down _____ |
| 3 | bark up the _____ | 7 | can't see the wood _____ |
| 4 | hold out _____ | 8 | bend before _____ |

**10K** **Read the following book reviews and choose the correct preposition from the box. Note that there is one extra preposition.**

as of about by in to on into with

In *The Wild Trees*, Richard Preston writes **1** _____ trees, of course, but his main focus is **2** _____ the men who climb them. There are no more than 30 people on earth who have climbed the world's tallest trees and who know their location. These men are seriously **3** _____ trees. Preston managed to gain access to this select group, and he introduces some truly remarkable men **4** _____ the reader. As soon **5** _____ he could, he began climbing the hidden giants himself, putting his life **6** _____ danger in order to understand the powerful connection between the massive trees and the world's last great explorers.

"**7** _____ climbing these trees with the men who do it as their lives' work, Preston has managed to write a thrilling true-life adventure story."
(*The New York Times*)

"At its heart this book is about the importance **8** _____ doing something you feel passionate about."
(*The Mail on Sunday*)

**10L** **Work in pairs or in small groups. Discuss the questions below.**

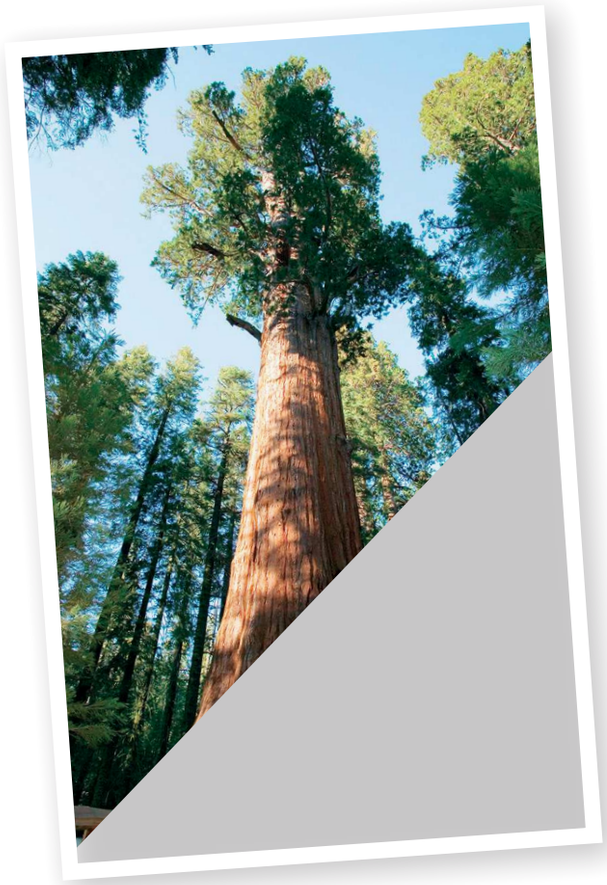
- Many Finns love to spend time in the forest. How about you? What is the value of forests for you?
- Do you have enough green areas where you live? Should there be more or could you do with less?
- How can green areas or forests be used for recreational purposes? Can you give some examples?
- Some cities, like Singapore, actively try to increase green mass in their areas. For example, companies are encouraged to add green walls to their buildings to maintain Singapore's image as a City in a Garden. Should your town do something similar? What could it do?

**10M** **The ENO project aims to raise environmental awareness all over the world. Listen to an interview with Mika Vanhanen, the project founder, and answer the questions in Finnish.**

1 Mitä kansalliset ENO-koordinaattorit työntekijät tekevät kouluissa?
2 Millaisia yhteistyötahoja ENO-projektilla on koulujen lisäksi? Mainitse kolme.
3 Millä perusteilla istutettavat puut valitaan?
4 Mitä suomalaisten tulisi parantaa metsänhoidossa?
5 Mihin ongelmaan ENO-projekti koittaa löytää ratkaisua Suomessa?

**10N** **Superstar trees. Work in groups. Go online and find out more about these famous trees. Present your tree in a two-minute talk to the rest of the group. Don't forget the visuals!**

- Hyperion
- the Sunland Baobab
- the Lone Pine
- the September 11 Survivor Tree
- General Sherman
- the Royal Oak
- moon trees
- the sacred Bodhi Tree



General Sherman, standing tall.

**10O** **Project work. Work in pairs or in small groups. Choose one of the following topics, do some online research, and write a report of 150–250 words.**

1 Human beings have cut down about 50% of all the trees on Earth. This has serious consequences for our planet. Why are trees important? And why are people cutting them down?

2 *400 Trees* is a global initiative to fight deforestation. Write a report explaining what it is and how it functions.

3 The trees in Central Park in New York have been mapped by Ken Chaya and Edward Sibley Barnard. Find out about their project and the trees in Central Park.

4 The Finnish foreign ministry has supported projects planting trees in some African countries, like Ethiopia, for example. Agricultural land has been converted into family forestry plantations. What do you think are the pros and cons of a project like this?

## Topic 11

# Urban living

A city is more than a place in space, it's a drama in time.
*(Sir Patrick Geddes, Scottish biologist and town planner)*

**11A** In pairs or in small groups, discuss the following pictures. Think about the five senses: what do people see, hear, smell, feel and taste in the places shown in the pictures?

Do you recognise the cities?

Would you like to visit one of these places? Why? Why not?

## Personal dictionary

**11B** Read text 11. Find the words below in the text and underline them.

- First, guess the meaning of the words, then look them up in the vocabulary app if necessary and write them down on p. 133–134.
- Choose 3–5 extra words or phrases and mark them, too.
- Try making sentences with some of the words.

1 generate
2 urbanite
3 tax revenue
4 district
5 commuter
6 deter
7 deprived
8 sanitation

## Topic 11 Text

# Urban living: mean streets and leafy suburbs

**Cities generate wealth. It's why most of the world's population now live in urban centres, despite our roots as hunter-gatherers. Cities offer employment because all those urbanites need to be fed, clothed, housed, transported, educated, entertained and policed. Better still, cities reduce transport costs for goods, people and skills by bringing them all together in one spot.**

By reducing transaction costs, cities boost trade and the amount citizens earn. Increased earnings means increased tax revenue which pays for the hospitals, schools and universities that allow citizens access to improved levels of healthcare and education. Consequently, the quality of life enjoyed by city dwellers is often superior to that of their rural counterparts.

On the other hand, the wealth created by cities does not guarantee a healthy and a happy life for all. Alongside the leafy suburbs and the high-end shopping malls, there are always poorer districts where low-income families live. An extreme version of this divide can be seen in the slums of Mumbai, the ghettos of Baltimore or the Rio favelas – districts characterised by crime, overcrowding, and high mortality rates.

Viv Reid and Parvez Patel are both 20-something urbanites, but have very different experiences of city life.

**11C** Listen to the stories of Reid and Patel. Fill in the gaps.

## A

### Viv Reid (25), Retail manager, Auckland

Whenever there's one of those quality of life surveys, my city – Auckland – is usually high on the list. Since I was born and raised here I guess I take a lot of the good stuff for granted. But if I had to pick something I really appreciate, I'd go for the abundance of natural beauty.

This city is full of green spaces – parks, nature trails, volcanic hills – **1** _____ to enjoy. Then there's our proximity to hundreds of glorious beaches, as well as the breathtaking Waitakere Ranges. Here, the great outdoors is right on your doorstep, which is good for business – especially my business. I run a sports store, and there's **2** _____ _____ needing gear for swimming, surfing, snorkelling, hiking, mountain-biking, sailing, fishing, caving ... the list is endless!

During the 25 years I've lived here, the city has grown more multicultural. Over 200 different ethnic groups now call Auckland home, so **3** _____. It also means that when I go out to eat I can sample cuisines from all over the world, which is a definite plus in my book.

Like every city, Auckland has its downsides. My number one gripe is with the town planning: there doesn't seem to be any. Urban sprawl is a serious problem and our public transport is a shambles. I live across the bridge, out in the suburbs and waste hours of my life sitting in the car, crawling along in rush hour traffic. The bridge links downtown Auckland with Northshore suburbs and **4** _____. This is not just a pain for commuters; bars, theatres, and restaurants also suffer as people are deterred from making the most of the city. Having braved the traffic to get home, many of us can't be bothered to face it again – even for a fun night out on the town. I think that's a big loss for everyone.

I guess I appreciate Auckland most when I get back from trips to other cities. **5** _____, like the fresh taste of the water from the tap or the way you can never predict the weather. This is a city where you always feel the presence of the natural world.

## B

### Parvez Patel (21), Tour guide and student, Dharavi, Mumbai

I was born in a shack made of cardboard and tin sheets, just one of thousands of shelters that make up the Dharavi slum. My neighbourhood is also known as Mumbai's Shadow City, and a million people live there. It's **6** _____ settlement with 270,000 inhabitants per square kilometre. London has around 5,000.

Being brought up in a slum doesn't mean I had a deprived childhood. My parents have always worked hard to **7** _____ for us. My mother is a cleaner in Mumbai and my father drives a motor rickshaw. There is a school nearby which I attended and since most of my friends also lived in the slum, they never judged me on my background. It was only when I went to college that people turned round and said, "Oh, poor you! It must be so hard!" That was when I understood the stigma that comes with living in a slum.

Not everyone in Dharavi is poor and desperate. Some families choose to live here because rents are cheaper or they run businesses in the area. And because everyone in our neighbourhood **8** _____ _____, there is a feeling of community. For example, you hear a lot about religious divisions in India, but you won't find them here.

Of course, there are problems: poor sanitation, a shortage of clean water, an almost **9** _____ and basic healthcare. Having children here is really risky. One of my friends lost his mother last year. She died in childbirth because there was no doctor to help her.

Many tourists who come to India are curious about what life is like in a slum, and subsequently **10** _____ to slum neighbourhoods. They hire insiders like me to accompany groups of visitors. It's good for my English and also pays for my college tuition fees. I'm studying for an MBA at the moment and will graduate next year.

After that I'll go wherever my work takes me, but Dharavi will always have a place in my heart.

**mean streets** /miːn striːts/ köyhä, levoton asuinalue
**leafy** /liːfi/ vehmas, lehtevä, runsaslehtinen
**suburb** /sʌbɜːb/ esikaupunki, lähiö
**generate** /dʒenəreɪt/

---

**wealth** /welθ/ hyvinvointi, varallisuus, rikkaus, runsaus
**hunter-gatherers** /hʌntə gæðərərz/ metsästäjä-keräilijä
**urbanite** /ɜːˈbənaɪt/

---

**police** /pəˈliːs/ pitää järjestystä, valvoa; poliisilaitos
**transaction costs** /trænˈzækʃn kɒsts/ toimituskulut
**boost** /buːst/ edistää, tukea, mainostaa; nousu, lisäys
**earnings** /ɜːnɪŋz/ tulot
**tax revenue** /tæks revənjuː, revənuː/

---

**consequently** /kɒnsɪkwəntli/ siis, siitä johtuen, sen seurauksena
**dweller** /dwelə/ asukas, asukki, asuja
**superior to** /suːˈpɪərɪə; sjuːˈpɪərɪə tə/ parempi, korkeampi
**rural** /ruərl/ maalais-, maaseutu-
**counterpart** /kauntəpɑːt/ vastine, virkaveli, jäljennös, kaksoiskappale
**guarantee** /ˌgærənˈtiː/ taata, olla takeena, luvata; takuu
**alongside** /əˌlɒŋˈsaɪd/ ohella, rinnalla, vieressä, sivulla
**high-end** /haɪ end/ huippu-, johtava
**shopping mall** /ʃɒpɪŋ mɔːl/ ostoskeskus
**district** /dɪstrɪkt/

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**low-income** /ləu ɪnkʌm/ matalapalkkainen, matalapalkka-
**overcrowding** /ˌəuvəˈkraudɪŋ/ liikakansoitus, ahtaus, ruuhka, tungos
**trade** /treɪd/ kauppa, kaupankäynti; käydä kauppaa
**mortality rate** /mɔːˈtælɪti reɪt/ kuolleisuus
**retail manager** /riːteɪl mænɪdʒə/ myyntipäällikkö
***take for granted** /teɪk fə grɑːntɪd, græntɪd/ pitää itsestäänselvänä
**appreciate** /əˈpriːʃieɪt/ arvostaa
**abundance of** /əˈbʌndəns əv/ runsaus, yltäkylläisyys, hyvinvointi
**proximity** /prɒkˈsɪmɪti/ läheisyys
**glorious** /glɔːrɪəs/ maineikas, mahtava, loistava, säteilevä
**breathtaking** /breθteɪkɪŋ/ henkeä salpaava
**steady** /stedi/ tasainen, vakaa, muuttumaton
**stream** /striːm/ virta
**gear** /gɪə/ laitteet, vaatteet, vaihde
**caving** /keɪvɪŋ/ luolaharrastus
**vibrant** /vaɪbrənt/ energinen, elämää sykkivä, eloisa
**sample** /sʌmpl, sæmpl/ kokeilla, ottaa näyte; maistiainen, näyte
**cuisine** /kwɪˈziːn/ keittiö, keittotaito
**downside** /daunsaɪd/ haittapuoli, varjopuoli
**gripe** /graɪp/ valituksen aihe, valitus; ruikuttaa, valittaa
**sprawl** /sprɔːl/ epämääräinen leviäminen, epämääräinen rykelmä; rönsyillä, levittäytyä, levitä, loikoa, retkottaa
**shambles** /ʃæmblz/ sekasorto, sekamelska
**crawl** /krɔːl/ madella, ryömiä; matelu, ryömiminen
**rush hour** /rʌʃ auə/ ruuhka-aika
**bottleneck** /bɒtlnek/ pullonkaula
**commuter** /kəˈmjuːtə/

---

**deter** /dɪˈtɜː/

---

**brave** /breɪv/ kohdata rohkeasti, uhmata; rohkea, uljas
**can't be bothered** /kænt biː bɒðəd/ ei viitsi vaivautua, päästä jstkn
**cherish** /tʃerɪʃ/ vaalia, hoitaa hellästi
**shack** /ʃæk/ mökki, hökkeli, vaja
**cardboard** /kɑːdbɔːd/ pahvi, kartonki
**tin sheet** /tɪn ʃiːt/ aaltopelti
**densely** /densli/ tiheään, taajasti
**populate** /pɒpjuleɪt/ asuttaa, asua jssk
**settlement** /setlmənt/ asutus, siirtokunta, uudisasutus, asettuminen

→

**inhabitant** /ɪn'hæbɪtənt/ asukas
**deprived** /dɪ'praɪvd/

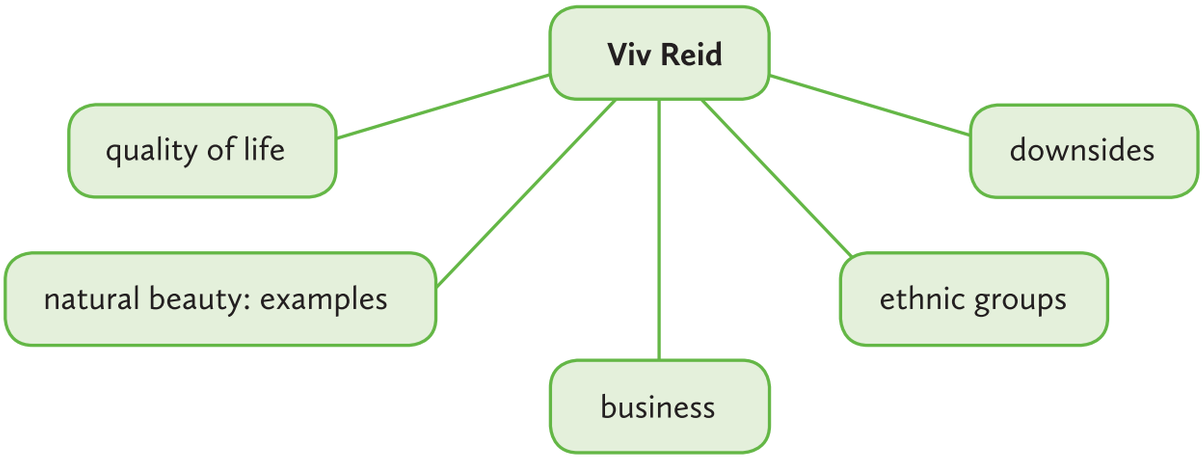
---

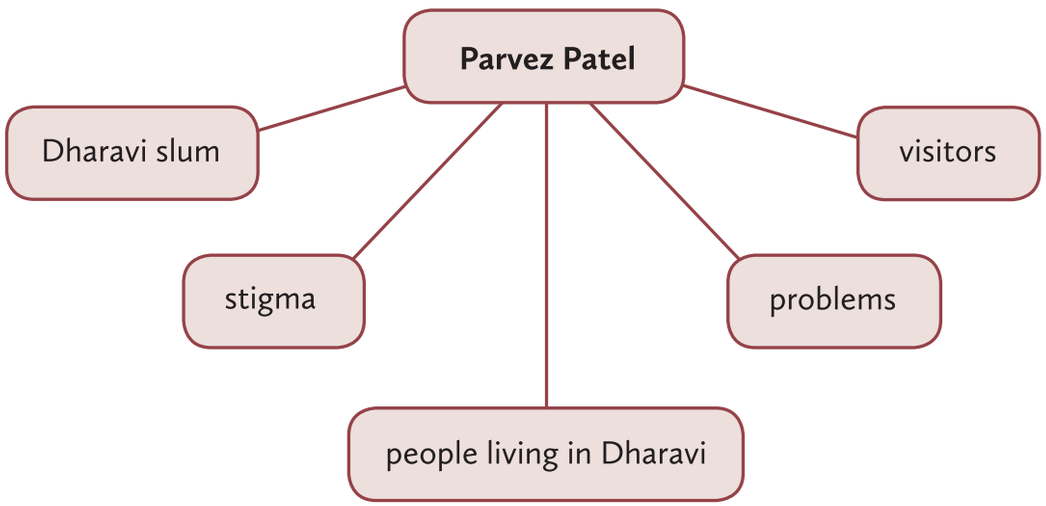
**motor rickshaw** /məutə rɪkʃɔː/ moottoroitu riksa
**stigma** /stɪgmə/ merkki, häpeätahra
***run business** /rʌn bɪznɪz/ pyörittää yritystä
**division** /dɪ'vɪʒən/ jako, erimielisyys, epäsopu, hajaannus, jakaminen
**sanitation** /ˌsænɪ'teɪʃn/

---

**shortage of** /ʃɔːtɪdʒ əv/ puute, pula jstk
**childbirth** /tʃaɪldbɜːθ/ synnytys
**subsequently** /sʌbsɪkwəntli/ sitten, myöhemmin
**operate** /ɒpəreɪt/ toteuttaa, toimia
**insider** /ɪn'saɪdə/ sisäpiirin jäsen, sisällä oleva
**accompany** /ə'kʌmpəni/ saattaa, seurata, säestää
**tuition fee** /tju'ɪʃn fiː/ lukukausimaksu
**MBA, Master of Business Administration** /ˌem biː 'eɪ, mɑːstə, mæstər əv bɪznɪz ədˌmɪnɪ'streɪʃn/ kauppatieteiden maisteri

**11D** Work in pairs. A concentrates on Viv Reid's story and B on Parvez Patel's story. Retell the stories with the help of the mind maps.



**11E** Are the following statements true or false?
Correct the false ones.

| | | true | false |
|---|---|---|---|
| 1 | According to the text, living in a rural environment is healthier for people. | | |
| 2 | Not all citizens in a city have a high standard of living. | | |
| 3 | For Viv, the best thing about Auckland is the different ethnic groups. | | |
| 4 | In Viv's opinion Auckland's weak spot is public transport. | | |
| 5 | Going out in the evening in Auckland can be dangerous for those people living in the suburbs. | | |
| 6 | Parvez's childhood home was a typical building in his neighbourhood. | | |
| 7 | Parvez wasn't accepted at elementary school because of his origins. | | |
| 8 | Parvez's attitude towards tourism in slums is probably positive. | | |

## Phrase hunt

**11F** Find the following expressions in the text.

1 huolimatta juuristamme _____

2 Pienentämällä toimituskuluja _____

3 parempi kuin _____

4 Aucklandilla on huonot puolensa

_____

5 ennustaa säätä _____

6 Vasta kun menin yliopistoon _____

7 he pyörittävät yrityksiä _____

8 puhtaan veden puute _____

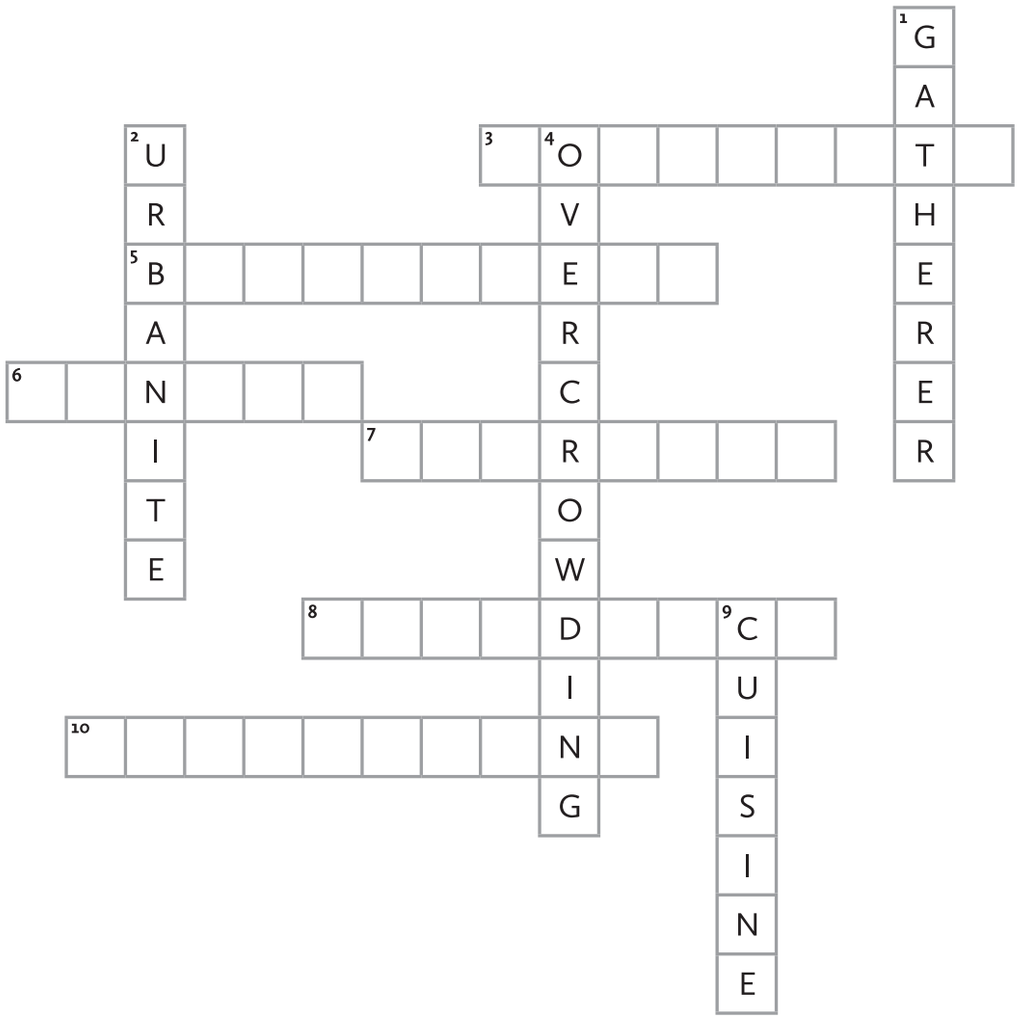
## 11G Translate sentences 1–3 into Finnish and 4–5 into English.

1 The quality of life enjoyed by city dwellers is often superior to that of their rural counterparts.
2 If I had to pick something in Auckland I really appreciate, I'd go for the abundance of natural beauty.
3 Being brought up in a slum doesn't mean I had a deprived childhood.
4 Alueen yksi huono puoli on se, että säätä on lähes mahdoton ennustaa.
5 Vähentämällä veden kulutusta voit estää vesipulaa.

## 11H Talking crossword. You and your partner both have the same crossword, but half of the words are missing in each version. Give each other clues to fill in the missing words.

Student A: Use the crossword on this page. Student B: Turn to page 194.

Example: Student A: Could you give me a clue about 3 across?
Student B: Sure. It is the amount of people who die within a certain period of time.



**11I** **Choose the best phrase to complete the sentences below. You may have to conjugate the verb. The phrases are taken from topic 11.**

| | | | |
|---|---|---|---|
| pay for | (take) for granted | known as | provide for |
| made of | attend | lack of | curious about |

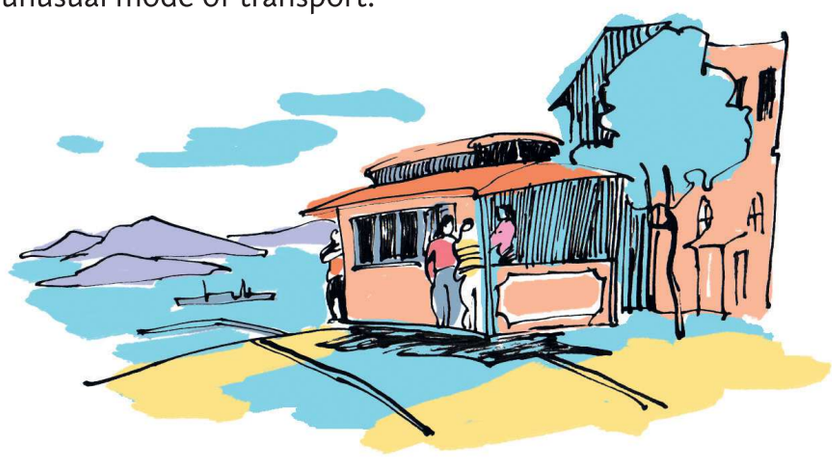
## City transport

Most urban centres have systems in place that **1** _____ the movement of people, goods and services. Most of us take our local transport **2** _____, but it can vary dramatically from city to city. In London, for example, the **3** _____ space on city streets gave rise to the famous London Underground.

Meanwhile, the citizens of Venice rely on waterbuses, also **4** _____ vaporetti, to get around their watery metropolis. Rather than **5** _____ individual tickets, most permanent residents buy a travel card.

In hilly San Francisco a system of cable cars transport the population up and down the steep inclines. There's even a special museum for those who are **6** _____ this unusual mode of transport.

The congested streets of Delhi are a nightmare for cars, so business people with urgent meetings to **7** _____ will often make use of a rickshaw.



One way to cut through the traffic in the Japanese city of Chiba is to ride the suspension railway. The cars, which are **8** _____ light-aluminium, hang from an overhead monorail giving travellers a wonderful view of the city below.

**11J** **Parvez Patel is working for a company that operates local tours in his neighbourhood. What is there close to your home that might interest tourists? e.g. A national park? A historical monument? An interesting building? A market? Work in pairs and plan a tour. Present your plan.**

Consider the following:

- Target group: Finnish or foreign tourists?
- Season: summer autumn, winter or spring?
- Points of interest
- Moving from one place to another
- The length of the tour
- Guides
- Meals on the tour
- Gear needed on the tour
- Costs
- Advertising

**11K** **Debate. Work in pairs or small groups. Choose one of the following motions about urban and rural life for a formal debate. Your teacher will show you instructions for a debate.**

- People who live in cities have a better life than those who live in the countryside.
- Tourism should be banned in national parks.
- Only people living in the countryside should be allowed to own a private car.
- The priority for Finnish government spending should be on rural rather than urban areas.

**11L** **Choose task A or B. Write about 150–250 words.**

A City dwellers vs rural residents
How do people who live in the city experience nature compared to people who live in the countryside?

B There is a green area near where you live. People use the area for walking, birdwatching, cycling and so on. The town intends to build a sports centre there. The mayor is coming to your school to present this idea. Write a speech, arguing for or against the new sports centre.

## Topic 12

# Prefixes

**Prefixes are letters that are added to the beginning of a word to make a new word with a different meaning.**

### Prefixes can

- create a new word opposite in meaning to the word the prefix is attached to.
  **il**logical (logical)
  **non**-smoker (smoker)

- express relations of time, place or manner.
  **pre**school (school)
  **extra**terrestrial (terrestrial)
  **over**cook (cook)

HOW TO

### How to write prefixes?

There are no absolute rules for when to use a hyphen or when to write a prefixed word as one word.

Use a dictionary to check the spelling if you are unsure.

## Common prefixes

### Negative, opposite prefixes

| prefix | examples | |
|---|---|---|
| **ab-** | abnormal | epätavallinen, poikkeava |
| **anti-** | antisocial | epäsosiaalinen |
| **de-** | demotivating | epämotivoiva |
| **dis-** | disqualify | diskata, tehdä kelpaamattomaksi |
| **down-** | downgrade | alentaa, väheksyä |
| **il-** | illegal | laiton, lainvastainen |
| **im-** | impossible | mahdoton |
| **in-** | insecure | epävarma, epäluotettava |
| **ir-** | irresponsible | edesvastuuton, syytön |
| **mal-** | maltreatment | kaltoinkohtelu, pahoinpitely |
| **mis-** | misinterpret | tulkita väärin |
| **non-** | non-smoking | savuton, tupakoimaton |
| **un-** | undo | kumota, purkaa |

**12A** Work in pairs. Use a prefix from the list above to make a new word. Translate the new word into Finnish.

| | word | new word with a prefix | Finnish |
|---|---|---|---|
| 1 | correct | | |
| 2 | finished | | |
| 3 | acceptable | | |
| 4 | agree | | |
| 5 | growth | | |
| 6 | rational | | |
| 7 | mature | | |
| 8 | nutrition | | |
| 9 | toxic | | |
| 10 | forestation | | |

## Time, place, manner prefixes

| prefix | examples | | prefix | examples | |
|---|---|---|---|---|---|
| **auto-** | autobiography | omaelämäkerta | **post-** | post-war | sodanjälkeinen |
| **bi-** | biannual | puolivuosittainen | **pre-** | pre-war | ennen sotia |
| **co-** | cooperate | tehdä yhteistyötä | **pro-** | pro-democracy | demokratiaa tukeva |
| **ex-** | ex-friend | entinen ystävä | **re-** | rewrite | kirjoittaa uudelleen |
| **extra-** | extraordinary | epätavallinen | **semi-** | semi-detached | paritalo |
| **hyper-** | hypertension | korkea verenpaine | **sub-** | submarine | sukellusvene |
| **inter-** | interactive | interaktiivinen, vuorovaikutteinen | **super-** | supersize | jättikoko |
| **mega-** | megabyte | megatavu | **trans-** | transatlantic | Atlantin ylittävä, transatlanttinen |
| **mid-** | midday | keskipäivä | **ultra-** | ultramodern | huippumoderni |
| **over-** | overrate | yliarvioida | **under-** | underdeveloped | alikehittynyt |
| **out-** | outdo | päihittää | **up-** | upgrade | ylentää, parantaa |

**12B** Work in pairs. Use a prefix from the list above to make a new word. Translate the new word into Finnish.

| | word | new word with a prefix | Finnish |
|---|---|---|---|
| 1 | correct | | |
| 2 | automatic | | |
| 3 | active | | |
| 4 | growth | | |
| 5 | live | | |
| 6 | enthusiastic | | |
| 7 | sound | | |
| 8 | continental | | |
| 9 | worker | | |
| 10 | ventilate | | |

# Suffixes

**Suffixes are letters that are added at the end of a word to make a new word with a different meaning. The new word often belongs to a different word class from the original word.**

## Suffixes

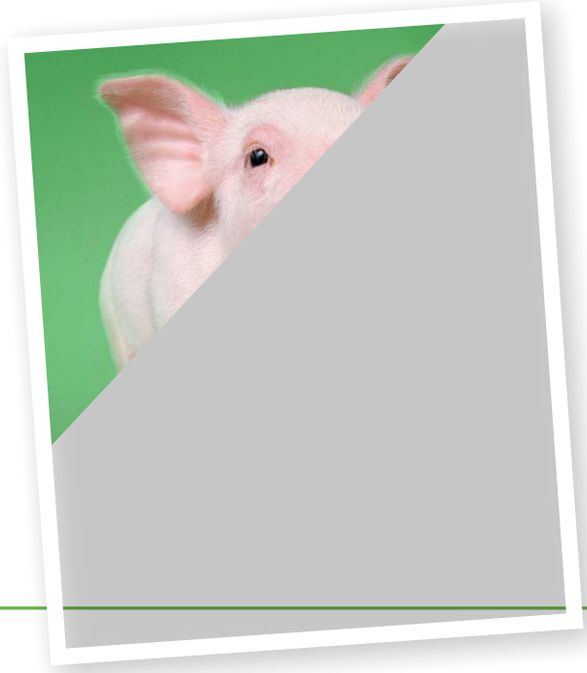
- people
  forest**er**
  assis**tant**
  mountain**eer**

- action, state or quality, profession and workplace, size (small)
  fish**ing**
  short**age**
  forest**ry**
  pig**let**

- verbs
  rip**en** (ripe)
  activ**ate** (active)

- adjectives
  drink**able**

- adverbs
  quick**ly**



HOW TO

## How to write suffixes?

When a suffix is added, it often changes the spelling of the original word.

For example

| | | |
|---|---|---|
| dut**y** + -ful | → | dut**i**ful (y → i) |
| permi**t** + -ion | → | permi**ss**ion (-t → ss) |
| fo**g** + y | → | fo**gg**y (+g) |

Unfortunately, there are no hard and fast rules for the change in spelling. Use a dictionary to check the spelling of suffixed words.

## Common suffixes

| **Noun suffixes** | examples | |
|---|---|---|
| **-age** | shrinkage | kutistuminen |
| **-al** | denial | torjuminen, kieltäminen |
| **-ance/-ence** | reliance, insistence | turvautuminen, vaatiminen |
| **-ee** | trainee | harjoittelija |
| **-er/-or** | driver, director | kuljettaja, johtaja |
| **-hood** | neighbourhood | naapurusto |
| **-ism** | capitalism | kapitalismi |
| **-ist** | socialist | sosialisti |
| **-ity/-ty** | cruelty | julmuus |
| **-ment** | amazement | hämmästys |
| **-ness** | usefulness | hyödyllisyys |
| **-ry** | forestry | metsänhoito |
| **-ship** | workmanship | ammattitaito |
| **-sion/-tion/-xion** | expression, migration, complexion | sanonta, muutto, ihonväri |

| **Adjective suffixes** | examples | |
|---|---|---|
| **-able/-ible** | portable, flexible | kannettava, joustava |
| **-al** | environmental | ympäristöön liittyvä |
| **-en** | wooden | puinen |
| **-ful** | useful | käytännöllinen |
| **-ic** | classic | klassikko |
| **-ish** | childish | lapsellinen |
| **-ive** | productive | tuottelias |
| **-ian** | Canadian | kanadalainen |
| **-less** | hopeless | toivoton |
| **-ly** | friendly | ystävällinen |
| **-ous** | cautious | varovainen |
| **-y** | rainy | sateinen |

| **Verb suffixes** | examples | |
|---|---|---|
| **-ate** | dominate | vallita |
| **-en** | shorten | lyhentää |
| **-ify** | identify | tunnistaa |
| **-ise/-ize** | industrialise | teollistua |

| **Adverb suffixes** | examples | |
|---|---|---|
| **-ly** | calmly | rauhallisesti |
| **-ward(s)** | upward(s) | ylöspäin |
| **-wise** | clockwise | myötäpäivään |

**12C** Choose the correct suffix from the alternatives given in the box to make a new word. Translate the new word into Finnish.

| | | new word | translation |
|---|---|---|---|
| 1 | clear | | |
| 2 | continent | | |
| 3 | interview | | |
| 4 | lively | | |
| 5 | employ | | |

-age
-al
-ance/-ence
-ee
-er/-or
-hood

A green neighbourhood.

| | | new word | translation |
|---|---|---|---|
| 6 | popular | | |
| 7 | produce | | |
| 8 | calm | | |
| 9 | entrepreneur | | |
| 10 | explode | | |

-ism
-ist
-ity/-ty
-ment
-ness
-ry
-ship
-sion/-tion/
-xion

Add three words using suffixes from the box that have not been used yet.

| | | new word | translation |
|---|---|---|---|
| 11 | adventure | | |
| 12 | flower | | |
| 13 | epidemy | | |
| 14 | fruit | | |
| 15 | convert | | |

-ible
-al
-en
-ful
-ic
-ish
-ive
-ian
-less
-ly
-ous
-y

Add three words using suffixes from the box that have not been used yet.

| | | new word | translation |
|---|---|---|---|
| 16 | time | | |
| 17 | modern | | |
| 18 | intense | | |
| 19 | fright | | |
| 20 | back | | |

-ate
-en
-ify
-ise/-ize
-ward(s)
-wise

## 12D Translate sentences 1–4 into English and 5–7 into Finnish.

- In sentences 1–4, pay attention to the underlined parts where you can use either a word with a suffix or a prefix.
- In sentences 5–7, pay attention to the translation of the underlined words.

1 Sam haluaa osallistua taas joka toisena vuotena järjestettävään seminaariin Suomen metsien tilasta.
2 Olin menossa kotiinpäin, kun huomasin, että voin lyhentää reittini oikaisemalla metsän läpi.
3 Mikä on ollut merkityksellisin kokemuksesi luonnossa?
4 Paras idea oli selkeästi ilman kuljettajaa toimiva bussi.
5 Some political decisions discourage you from becoming more involved in environmental matters.
6 We were misinformed again! Writing post-truths should be made illegal and punishable.
7 The First Lady was restless. However, her ability to hide her nervousness was impressive.

# UNIT 4

## Final exam focus

## Final exam focus 1

# Reading comprehension

## 1.1

### Avokysymykset

- Lue ensin koko teksti, jotta saat siitä yleiskuvan.
- Jos teksti vaikuttaa hankalalta, lue ensin kysymykset, ne voivat auttaa eteenpäin.
- Vastaa siihen, mitä kysytään ja vältä antamasta turhaa lisätietoa. Väärä tieto vastauksessa vähentää pisteitä.
- Vastauksen täytyy perustua tekstiin, ei omiin tietoihisi asiasta. Varmista siis, että löydät valitsemasi vastausvaihtoehdon tekstistä.
- Kirjoita vaaditulla kielellä lyhyt ja mahdollisimman tarkka vastaus. Älä toista kysymystä. Vastauksen täytyy mahtua sille annettuun tilaan.
- Käytä korrektia yleiskieltä vastatessasi.
- Huomaa kysymykset, joissa on kaksi osaa (esim. Minne he menivät ja miksi?) tai vaaditaan mainittavan kaksi asiaa.

**Lue seuraavat tekstit ja vastaa niiden pohjalta lyhyesti suomeksi kysymyksiin a–e.**

### 1.1a Bottled water in the Antarctic

It has been estimated that 70% of the earth's fresh water is tied up in the Antarctic ice cap. Researcher Nicole Aldred spent the summer of 2016 high on the East Antarctic Plateau, surrounded by some of the purest, cleanest snow on earth. Imagine her surprise when she noticed the kitchen staff put 1.5 litre plastic bottles of water on the dining room tables. Tons of this water are annually imported from Italy, at great expense. And that's not taking the carbon footprint into account, nor the problem of getting rid of the empty plastic bottles. Why did the personnel at the French-Italian station Concordia prefer bottled water?

Apparently they considered the Antarctic snow to be too sterile. Since it's essentially distilled water, they argued that it doesn't contain all the essential minerals.

a) Minkä ongelman tutkija Nicola Aldred huomasi juomaveteen liittyen Etelänapamantereella? /2 p

## 1.1b The power of birdsong

The impact of birdsong on human creativity and well-being is to be explored in a four-year research project at the University of Chicago. The study will look at the psychological impact of being exposed to birdsong on a regular basis. Researchers will examine whether birdsong can help us relax, can improve our ability to complete tasks and ultimately help us think more creatively. Eleanor Ratcliffe, a researcher involved in a similar study conducted at the University of Surrey, said while there was a growing body of environmental psychology looking at how the natural world affects people, there was still a lot to understand about the power of specific natural sounds.

b) Mitä chicagolaisen yliopiston tutkimuksessa tutkitaan? **/2 p**

## 1.1c Stars burning bright?

Our night skies are increasingly saturated with light pollution, and the findings of the annual star count survey in the greater Manchester area make a sober read. More than 50% of those who took part in the survey failed to see more than ten points of light in the constellation of Orion, one of our more visible constellations. Only 2% of the participants could see more than 30 stars. But does this matter? What is the significance of stars? Stars are important because they give us a sense of scale, how tiny we are in this magnificent, sparkling wonder that is the cosmos. Stars are also a critical part of our collective human identity. Some cultures believe that the stars are the campfires of distant people, for example, while others say that they are the spirits of those unwilling to be born.

In our risk-adverse, crime-ridden world, pitch-black nights are fast becoming a thing of the past. Sadly, our fear of the dark is apparently more visceral than our love of stars.

c) Mikä merkitys tähtien näkemisellä on tekstin perusteella? Mainitse kaksi asiaa. **/2 p**

## 1.1d–e Safe houses

It's a truism you will hear from rescue workers in earthquake zones around the world: Earthquakes don't kill people; buildings do. When houses, bridges and other structures experience sudden shocks they often collapse with catastrophic consequences for the people inside or around them. This begs the question: Is it possible to keep buildings upright and intact during a powerful earthquake?

Engineers have come up with a number of solutions to do just this. Since earthquakes often knock buildings from their foundations, one solution involves tying the foundation to the building so the whole structure moves as a unit. Making sure all four walls of the building are properly joined together is another key factor in preventing them from collapsing. Another solution is to include a system of steel cables inside the building's frame. Once the earthquake is over and the shaking has stopped, the steel cables in the frame pull the building back into its original position.

d) Minkä ongelman teksti kuvaa? **/2 p**

e) Miten ongelma voidaan ratkaista? Mainitse kaksi asiaa. **/2 p**

## 1.2

### Monivalintatehtävät

Final exam focus

- Lue ensin koko teksti, jotta saat siitä yleiskuvan.
- Jos teksti vaikuttaa hankalalta, lue ensin kysymykset, ne voivat auttavat eteenpäin.
- Lue kysymys ja vaihtoehdot huolellisesti läpi.
- Lue sen jälkeen teksti uudelleen osissa kysymysten mukaan.
- Varmista, että löydät valitsemasi vastausvaihtoehdon tekstistä.
- Karsi se vaihtoehto, joka ei ainakaan voi olla oikein.
- Yritä päätellä sinulle vieraan sanan merkitys käyttäen apuna sitä ympäröivää tekstiä.
- Ole tarkkana sanojen *all, most, often, frequently, always, never, seldom* kanssa. Jos tekstissä mainitaan "They never ski in the wintertime", se ei ole sama kuin "They seldom ski in the wintertime".

**Read texts 1.2a–1.2e and then answer questions 1–17.**
**Choose the best alternative for each item.**

## 1.2a Swamp dining

Gumbo is a heavily seasoned stew or soup that originates from southern Louisiana. It has a rich and unique history based on the melting pot of cultures that came together in Louisiana during the 18th century. French, Spanish, African, and Native American ingredients and techniques all influence the character of this famous dish. The word Gumbo is a truncated form of the African Bantu word for okra "ki ngombo" one of gumbo's defining ingredients. The dish is traditionally made from items that would be found within the ecosystem of a swamp. Wild rice, crawfish, okra, and bay leaves are all standard components. Sassafras has also been included in some recipes. If one was brave enough, an alligator could even be hunted and added to the dish. Since hunting alligator is rather a risky business, however, most folks just opted to add a chicken from their farm to the pot. After all, it's always better to eat your food rather than have your food eat you.

1 What best describes gumbo?
- A It's a complicated dish to make with very specific ingredients.
- B The origin and evolution of the dish can be traced to Africa.
- C Although the dish is a local one, it has a multicultural background.

2 Why would alligator meat be added in gumbo?
- A It would make the cook appear bold and brave.
- B Local resources are often used.
- C Though dangerous to obtain, it's a tastier ingredient than chicken.

/2 p

**INFO BOX**

### Crab, crawfish or crayfish?

The Finnish word *rapu* can be translated as
- crab: a flat, hard-shelled creature that lives in the sea.
- crawfish: a hard-shelled creature that looks like a small lobster and lives in freshwater. In British English they are called crayfish.

## 1.2b Dogs sniff out black gold

Truffles, a form of edible fungus, are notoriously difficult to find. They grow underground when climatic conditions are right, and there is no guarantee that a good spot for truffles one year will be any good the following year. Hence the need for animal assistance in tracking down this precious black gold.

While most think of truffle-hunting pigs, dogs are actually easier to train, and because of the pigs' fondness for the truffles, less likely to eat the ones they find. The trick is to start young. Training commences by rubbing a truffle on the teat of the mother dog. A feeding puppy therefore begins to associate the odour with a pleasurable experience. As the puppy grows, he is given a toy, perhaps a sock or cuddly animal with a truffle hidden inside. The toy is hidden and gradually the puppy is taught to search it out. Each time the toy is found the puppy is rewarded with food. The dog learns that finding the odour of a truffle results in a treat.

3 Why are truffles so difficult to find?
- A Their location is uncertain.
- B Only animals can dig them out.
- C They only appear at certain times of the year.

4 Why are dogs better at truffle hunting than pigs?
- A Dogs can be trained to find the truffles quicker.
- B Dogs will leave more truffles untouched.
- C Dogs have a better sense of smell than pigs.

5 What is the most important thing when training a dog to find truffles?
- A The dog must associate the smell of a truffle with its mother.
- B The dog must connect the smell of a truffle with something enjoyable.
- C The dog instinctively knows how to find the truffles.

/3 p

## 1.2c Perhaps not as dead as a dodo

When the ivory-billed woodpecker – a bird thought to be as dead as the dodo – was spotted years after it was declared extinct, many wondered how a bird the size of a crow, with a call like a hyena, could have avoided detection for so long, even in the backwoods of Arkansas. But in fact phoenix-like reappearances, long after a species is thought to be extinct, occur more frequently than is commonly believed. In the mid-1980s ornithologists in India found Jerdon's courser, a nocturnal wading bird that had not been seen since the dawn of the 20th century. Ten years later an expedition to the Indonesian island of Halmahera rediscovered the aptly named invisible rail, yet another species supposedly lost for ever.

According to BirdLife International almost 1,200 species of birds (more than 12% of the world's total) are at risk of extinction in the 21st century. But some species simply refuse to lie down and die. BirdLife revealed a possible sighting of the legendary pink-headed duck, the first since before the Second World War, in a remote region of northern Burma. Frustratingly, the bird was seen for just three minutes and none of the observers managed to get a reliable photograph, making it yet another in the long line of 'the one that got away'. →

So is there a remote chance that any of the three best-known extinct birds in history could have survived somehow, somewhere? The flocks of passenger pigeons in North American skies – all gone. The great auk, the last example of which was killed by islanders who apparently thought it was a witch – gone. And the dodo, eaten by hungry sailors and the dogs, cats and rats they brought with them – definitely gone?

It's not likely that they have survived. But hope springs eternal, doesn't it? Perhaps, even as we speak, a dearth of dodos are scratching around in the undergrowth in some remote, secluded spot. And pigs might fly.

6 What do the ivory-billed woodpecker and Jerdon's courser have in common?
- A Both bird species have died out.
- B Their appearances have been scarce.
- C These birds have been spotted frequently since the early 1900s.

7 What was problematic about the pink-headed duck?
- A It was difficult to prove its existence.
- B It was hiding in an isolated place nobody could visit.
- C It refused to be caught and flew away.

8 What is said about the survival of extinct bird species like the dodo?
- A They might be extinct but hope of their survival still remains.
- B There is a good chance that these species are living somewhere undetected.
- C These species have most likely become extinct for good.

/3 p

## 1.2d All sorts of worms

"We are all worms," Winston Churchill said, "but I do believe that I am a glow-worm." This quip would earn him an F in biology (most glow-worms are a kind of fly or beetle) but an A for insight into how humans often feel. We know ourselves to be tiny specks in the universe, but we can't help feeling that we are really rather special. Or the loop of thought can run the other way: we're amazing!... but there's no escaping it, we are one with the worm. As the geneticist Steve Jones puts it, "every one of us, however eminent, is a ten-metre tube through which food flows, for most of the time, in one direction."

Whichever way you put it, however, the fact is that in everyday life few of us spend time thinking about worms. Beyond the rarefied world of evolutionary biology and parasitology, general attitudes to worms have changed little since people were writing bestiaries seven hundred years ago: there are various things out there which are wormy, the ones in the soil are good but most of the rest are to be avoided and... well, that's it. This, I will argue, is a pity because it means people are missing out on many things that are remarkable and beautiful as well as repulsive and unsettling. When you get beyond the yuck factor, a whole world of delights – and frights – opens up. From arrow worms to spoon worms, and from peanut worms to priapulid worms, every human can benefit from contemplating the riot, the carnival, the salmagundi of worms.

As the writer and fanatical gardener Karel Capek said: "After his death the gardener does not become a butterfly, intoxicated by the perfumes of flowers, but a garden worm, tasting all the dark, nitrogenous and spicy delights of the soil."

Whether or not one believes in life after death, it is the case that an entire Planarian flatworm can be regrown from a single cell taken from the body of an adult. Evidence enough that there are miracles in life.

© Caspar Henderson, excerpt from the novel *The Book for Barely Imagined Things*, 2012. Reproduced by permission of Granta Books.

9 What does the quote by Churchill tell us about how most people feel?
- A We are all fond of worms.
- B We seem to overestimate our own importance.
- C We are a precious part of the natural world.

10 What does the comment by Steve Jones mean?
- A People should learn more about the digestive system of worms.
- B People and worms are both parasites.
- C People have more in common with worms than we might think.

11 How have people's attitudes to worms changed throughout history?
- A People have always been fascinated by the variety of worms.
- B Scientific interest in worms was the strongest in the Middle Ages.
- C People's curiosity about worms has remained the same over centuries.

12 What is the overall message of the extract?
- A It's regrettable people do not pay more attention to worms.
- B Worms are a prerequisite to life.
- C It's understandable that people find worms disgusting.

**/4 p**

## 1.2e Going bananas

The UN Food and Agriculture Organisation considers bananas to be the fourth most important crop in the developing world. They estimate that only wheat, rice and maize are more important in terms of gross value. For around 400 million people in the tropics, bananas are their most significant staple food. The export trade, meanwhile, is currently worth some 5 billion dollars a year.

Before they became a domesticated crop, wild bananas were inedible fruit stuffed with small, stony seeds. As is the case with many of the plants we eat today, edible varieties probably first arose as random, sterile mutants. Farmers then propagated these mutant bananas by taking cuttings from the suckers that grow from the base of the banana tree. This eventually led to the soft, tasty bananas we eat today. Well, not exactly the same type of bananas, as we shall see.

It is widely accepted that the first bananas came from Southeast Asia, where we still find tremendous diversity in shape, colour, texture and flavour. Bananas reached Africa at around 1,000 AD via Indo-Malaysian immigrants who colonised Madagascar. From here, they spread to the Pacific region, and much later to the New World.

Bananas have a characteristic that makes them the ideal food: they have no seeds. However, it is this very characteristic that makes it fiendishly difficult to cultivate better bananas. Then again, why would we want to make better bananas? Highly nutritious, containing large amounts of carbohydrates and minerals such as phosphorus, calcium, and potassium as well as vitamins A and C, bananas are surely just about as perfect a fruit as you can find.

Well, yes. But unfortunately bananas are mostly clones, and like many other vegetatively propagated crops, this genetic uniformity means that they are vulnerable to disease. When a disease attacks, it can wipe out the entire banana crop. In the 1950s, for example, commercial plantations all grew only one variety of banana, called the Gros Michel. Apparently, it was a superior-tasting fruit compared to what we find in our stores today. Nowadays, you will find this variety only in some remote parts of Uganda and Jamaica. Everywhere else it was totally wiped out by the infamous Panama disease, a wilt caused by a type of fungus.

Large commercial plantations then switched to the variety (called the Cavendish) which, if you live in Europe or the US, is probably the only banana you have ever eaten. However, in 1992, the disease that cut a swathe through Gros Michel plantations mutated into a form that can also attack the supposedly more robust Cavendish cultivar. The new mutation laid waste to plantations in Malaysia. The disease is currently confined to Asia, but experts predict that it's only a matter of time before it reaches Latin America and the Caribbean.

Creating disease-resistant banana hybrids is thus a matter of some urgency, and at the University of Leuven in Belgium scientists are trying to do just that. Leuven, of all places, has the world's largest collection of banana diversity. Over the past twenty years, some 1,175 different kinds of banana have been carefully nurtured as tiny plants growing in test tubes. Botanists are trying to improve the world's favourite fruit through genetic engineering, thereby making it more resistant to disease and pests. Even people who are categorically against GM foods would have to agree that bioengineering better bananas is better than having no bananas at all.

13 What is true about the origin of bananas?
- A Wild banana seeds were used to grow the first edible bananas.
- B Bananas are the result of multiplying infertile plants.
- C Farmers cut down the original banana plants to grow new ones.

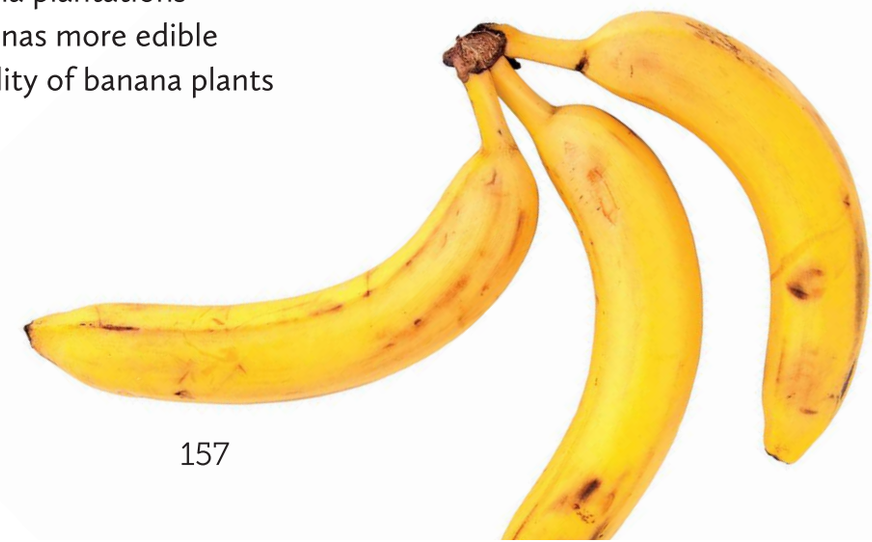
14 What is said about cultivating stronger banana plants?
- A They do not need to be improved at all as they are nearly perfect.
- B They are an ideal crop to cultivate because they can be cloned.
- C Creating better varieties of bananas can be challenging.

15 What happened in Malaysian banana plantations in 1992?
- A The plantations suffered a similar fate to plantations in earlier decades.
- B A new type of mutated banana plant was introduced there.
- C The plantations had problems with waste disposal.

16 The writer of this article
- A thinks that today most people in the world know only one type of banana.
- B thinks it's odd that the biggest collection of banana cultivars is in Belgium.
- C thinks that GM foods are unacceptable no matter what the circumstances.

17 Choose an alternative heading for this text.
- A The origin of banana plantations
- B How to make bananas more edible
- C Enhancing the quality of banana plants

**/5 p**



## 1.3

**Read text 1.3a and then answer questions 18–21.**
**Choose the best alternative for each item.**

### 1.3a Urban landscape ecology: making our cityscapes more resilient

*By Ashley D Penn, landscape architect*

Designing urban environments that are resilient to change requires careful planning. A landscape ecology approach to urban planning uses blue-green infrastructure to mitigate many of the effects of pollution, noise, climate change, and flooding that are facing our cities today.

It has been observed that natural, or 'pristine', landscapes have a built-in resilience. They are able to withstand stressors, such as flooding, wildfire, or climate change, better than man-made environments. The interconnectedness of different habitats, from woodlands to scrub, streams to lakes, helps to ensure that if one local population of any species should become extinct, there is a reserve population in a neighbouring area ready to fill the void. However, this intricate matrix is often of poor quality, or is absent from our urban centres.

18 What is true according to the text?

A Natural environments have ways to cope with dramatic changes better than urban environments.

B In natural environments, species have a tendency to invade neighbouring habitats.

C Resilience characterizes urban environments better than natural environments.

#### Blue-Green infrastructure

Blue-Green infrastructure is a broad term used to describe a matrix of natural and designed landscape elements to solve urban climatic problems. It is best considered at the planning policy stage when designing new urban environments, but many of its elements can also be retrofitted to existing towns and cities. They can include parks, tree-lined roads, urban forests, green roofs and walls, natural rivers, and rain gardens. The idea is not to simply increase the net 'green' within a city, but to plan ahead by employing specific techniques to solve specific problems.

19 Choose whether the statements are true or false.

| | | True | False |
|---|---|---|---|
| A | Blue-green infrastructure is concerned mostly with natural environments. | ☐ | ☐ |
| B | Blue-green planning can be applied to existing urban environments. | ☐ | ☐ |
| C | Blue-green planning simply means adding natural green and blue elements to cities. | ☐ | ☐ |

## Rain gardens and flood meadows

Urban environments have a high proportion of hard surfaces, such as concrete and asphalt. These impermeable surfaces collect rainwater, and discharge it quickly into storm-water sewers. Therefore, when it rains heavily these sewer systems can quickly become inundated, leading to flash flooding. This can be avoided through a range of techniques that employ natural processes.

A rain garden collects water from the surrounding impermeable surfaces and holds it in a temporary pond, from which it slowly drains away into the water table, or is taken up by plants and transpired back into the atmosphere. Although the term 'garden' might imply a small area, these rain gardens can be large, often fulfilling a number of other roles when they are not inundated, such as amphitheatres, ice rinks, or informal play areas.

Although not a new phenomenon, flood meadows are becoming increasingly important in urban planning. Where previously floodplains may have been considered for residential development, they are now being deliberately set aside to be inundated when rivers burst their banks. These urban flood meadows are often used as parks, and provide bio-diverse habitats for wildlife.

20 In the text, the word *impermeable* means

A water pressure.
B waterproof.
C resilient.

21 According to the text, what is true about flood meadows?

A Their sole purpose is to gather water when rivers overflow their banks.
B Today, in urban areas empty flood meadows are being built for people to live in.
C Flood meadows serve a number of purposes.

/4 p

**Lue seuraava teksti 1.3b ja vastaa sen pohjalta lyhyesti suomeksi kysymykseen 22.**

## 1.3b Urban greenways and linear parks

Urban greenways and linear parks perform a range of functions, both ecological and anthropogenic.

These pedestrian routes encourage local residents to walk, rather than take the car or public transport. As well as reducing transport emissions, this has some obvious health benefits from increased physical activity, raised vitamin D through increased exposure to sunlight, and increased social interaction. As these areas are 'soft' they are permeable to rainwater, reducing stress on local storm water sewers. Trees in these urban environments remove pollution and act as 'carbon sinks' where carbon dioxide from the atmosphere can be captured and stored. Trees also provide a cooling effect as they provide shade and evaporate water, mitigating the urban heat island effect where concrete and asphalt store the sun's energy and radiate it out at night, causing the local area to warm.

With such benefits offered by landscape elements in the urban environment, it is, perhaps, surprising that blue-green infrastructure has not been more widely employed in urban planning policy. With the rise of ecosystem services placing greater value on our natural resources, hopefully we will see an increase in an ecological approach to building resilience into our future cities.

22 Mitä hyötyä kaupunkien vihreistä kävelyreiteistä on ilmastolle? Mainitse kaksi asiaa.

**/2 p**

## Final exam focus 2

# Grammar and vocabulary

## 2.1

### Monivalinta-aukkotehtävä

Final exam focus

- Monivalinta-aukkotehtävän pohjana on yksi tai useampi yhtenäinen teksti, joista on poistettu sanoja.
- Lue ensin koko teksti, jotta saat yleiskäsityksen tekstistä.
- Tutki huolellisesti aukkoa edeltävät ja seuraavat sanat. Tarkkaile myös pidempää tekstipätkää: puuttuvan sanan vihje voi olla monen rivin päässä itse aukosta.
- Voit myös testata jokaista vaihtoehtoa lukemalla lause hiljaa mielessäsi.
- Karsi ne vaihtoehdot ensin, jotka eivät voi olla oikein.
- Lue teksti vielä täydennettynä valitsemillasi kohdilla: kuulostaako hyvältä?

The High Line, New York City.

**Read text 2.1 carefully and for each item choose the alternative that best fits the context.**

# Waste not, want not

## How to put broken eggshells to use

Like __1__ other businessman, Pankaj Pancholi abhors waste. In his case it was the mountain of broken eggshells he was paying some £45,000 ($64,000) __2__ to have carted away to be buried as __3__. Mr Pancholi is the __4__ of Just Egg, of Leicester, Britain, a firm that hard-boils up to 1.5m eggs a week for sale in supermarkets and for use in __5__ foodstuffs __5__ sandwiches, mayonnaise and Scotch eggs (a British culinary classic consisting __6__ an egg wrapped in sausage meat). Surely, thought Mr Pancholi, the shells could be used for something, thus earning revenue rather __7__ draining it? So, he __8__ with Andy Abbott of the University of Leicester, to __9__ a plan to recycle them.

1 A some
B any
C much
D one

2 A in a year
B for a year
C a year
D year

3 A minerals
B landfill
C debris
D junk

4 A organizer
B builder
C grounder
D founder

5 A so – as
B such – as
C certain – as
D such – than

6 A of
B in
C on
D for

7 A as to
B –
C than
D as

8 A teamed up
B teamed with
C was being teamed up
D teamed

9 A neglect
B hatch
C attach
D match

Pure eggshells consist almost entirely of a tough, crystalline form of calcium carbonate (the chemical of which chalk __10__). Just Eggs's automated peeling equipment, though, removes __11__ the shell __11__ the membrane beneath, which is attached to the shell. The shells can contain broken bits of egg, too. All that makes the __12__ a potentially smelly industrial by-product, which is why they __13__. What Dr Abbott and his colleagues in the university's chemistry department whisked up was a way to cleanse the shells and __14__ them into a fine powder that might be added to various plastics as a filler material to make them more hard-wearing.

__15__ worked in a laboratory, __16__, had to be scaled up into an industrial process that could cope __17__ the output from Just Egg's busy __18__. For that, Mike McNamara of Delta Engineering, a firm based near Grimsby, put together the necessary equipment to go into a special extension to Mr Pancholi's factory. The whole caboodle has just been __19__.

10 A composes
B was composed
C is composing
D is composed

11 A not only – and
B not only – but
C not only – and also
D not only – but also

12 A leavings
B leftovers
C hangovers
D wastes

13 A is buried
B was buried
C are buried
D have buried

14 A grind
B ground
C grinding
D grinds

15 A That
B They
C Those
D What

16 A therefore
B consequently
C however
D still

17 A in
B with
C on
D –

18 A main line
B bottom line
C product line
D production line

19 A closed up
B switched off
C switched on
D shut down

The process begins with the shells __20__ along a conveyor belt, to be tipped into tanks where they __21__ with water and attacked by rotating blades. The chopped material is then washed with a solvent __22__ leftover protein. (Both the water and the solvent are recycled.) After this, the shells are dried and ground into a fine powder, __23__ can be varied according to the type of plastic to be filled.

Mr Pancholi is now egging Dr Abbott on to ask if flakes of membrane the process generates as waste can be useful, too. These flakes are rich __24__ keratin, which is also the main substance of human skin, so they __25__ medical applications in, for example, wound dressings.

20 A travels
B travelled
C travelling
D travel

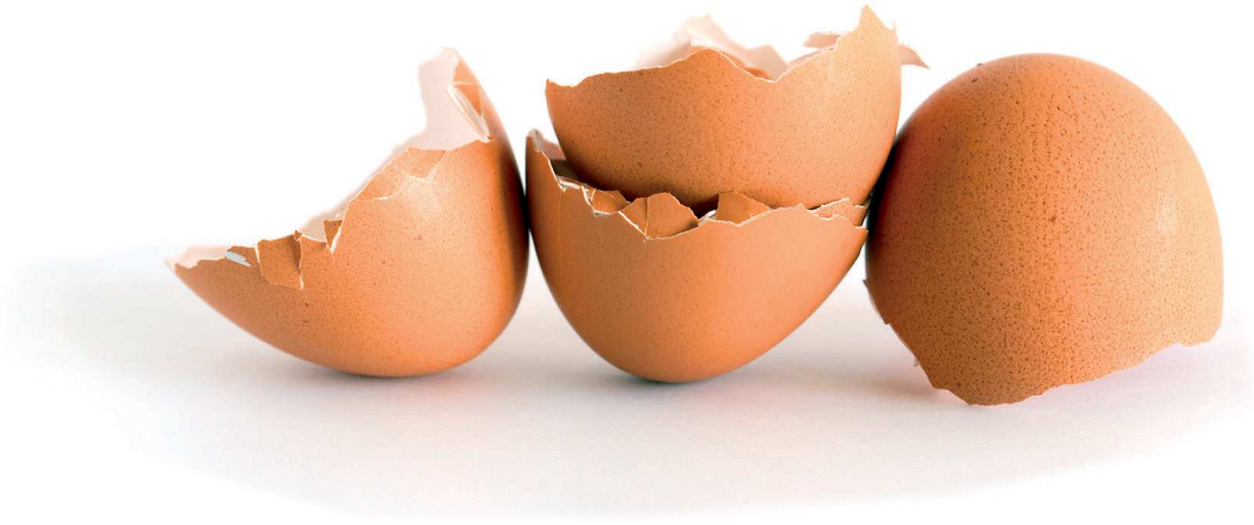
21 A is mixed
B are mixed
C is mixing
D mixes

22 A is removed
B has removed
C to remove
D removed

23 A which consists of
B the consistency of which
C the consistency of whom
D the consistency of what

24 A in
B of
C out of
D with

25 A are having
B may have
C may be having
D must be having



__26__, Dr Abbot and Mr Pancholi are not the only ones enthralled by eggshells. Vijaya Rangari of Tuskegee University, Alabama, told a recent meeting of the American Chemical Society about his use of ultrasound to break eggshells up into particles mere billionths __27__ a metre across. He and his colleagues found that by mixing such particles into polymers, __28__ some derived __29__ cornstarch, they could bolster both the strength and the flexibility of biodegradable plastics, making them more suitable for use as food packaging – including egg cartons. __30__ ever increasing costs for transport and landfill, finding such useful roles for shells makes Mr Pancholi eggstatic.

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/30 p

26 A Since
B As
C Because
D Moreover

27 A from
B in
C with
D of

28 A including
B to include
C includes
D include

29 A for
B in
C out of
D from

30 A Faced with
B Facing with
C To face with
D Had faced with

## 2.2

**Read text 2.2 carefully and for each item choose the alternative that best fits the context.**

Zoologger:

### Flying snake gets lift from UFO cross section

Zoologger is our weekly column __1__ extraordinary animals – and occasionally other organisms – from around the world

*By Sandrine Ceurstemont*

Why __2__ when you can fly? While their relatives slither __3__ the ground, a few snakes take to the air, gliding from tree to tree. __4__ most skilled of them all is the paradise tree snake, and we __5__ finally have worked out why. It gets an aerodynamic lift __6__ shifting its body into an unconventional, __7__ strangely familiar, form.

1 A playing down
B highlighting
C stressing
D focusing

2 A crawl
B to crawl
C crawling
D being crawled

3 A in
B at
C –
D on

4 A The
B By
C A
D By far

5 A will
B should
C ought to
D may

6 A in
B by
C with
D along

7 A yet
B still
C so far
D however

__8__ five species of flying snake, all native to south-east Asia. The five are reasonably average in the looks department – at least, until they begin to move. These snakes slither up trees before launching themselves from branches high in the canopy, undulating their bodies from side to side as they glide elegantly – __9__ of about ten metres __10__ second – to their destination.

Most studies into the snakes' gliding skills have focused __11__ these wave-like body undulations, but Jake Socha of Virginia Tech in Blacksburg and his colleagues decided to concentrate on another factor.

## Shape-shifter

It is clear that, once airborne, the snakes flatten their cylindrical bodies by splaying out their ribs. Slice a snake open, and the cross-sectional shape the body makes is reminiscent of __12__ UFO from the classic Space Invaders arcade game. It's not a shape conventionally __13__ aerodynamic – but the biologists decided to investigate __14__ properties anyway.

8 A It is
B It was
C There are
D There were

9 A for speeding
B with speeds
C speeding
D at speeds

10 A in every
B in
C per se
D per

11 A with
B on
C to
D –

12 A a
B an
C the
D –

13 A regarding as
B considering as
C regarded as
D taken for

14 A its
B it's
C its'
D it is

→

Socha's team recreated a 2D model of a mid-body snake slice, and then placed it in a tank filled with flowing water – a technique that allowed them to model how __15__ around it. It was much more aerodynamic __16__ Socha expected, producing forces that, in air, would allow it to maintain near-maximum lift. "The forces are what allow it to move forward in the air and not fall down," he says.

__17__, the UFO shape __18__ more conventional aerofoil designs, like those __19__ construct aircraft wings.

## Scale is everything

Does that imply the aircraft industry could improve its designs? Probably not, says Socha. The trouble is, the UFO design works better than our conventional designs only for small objects gliding relatively slowly. An object about __20__, in fact. Scale the design up to the size and speed of a jumbo jet, and the airflow no longer provides good lift. "If you tried to scale it up to make the wing of a passenger plane, it __21__ a terrible idea," says Socha.

15 A would air flow
B air would flow
C wouldn't air flow
D air wouldn't flow

16 A as
B like
C than
D when

17 A Effectively
B As a matter
C Reality
D In fact

18 A outperformed
B were better
C exceed
D outrun

19 A used to
B using
C were to
D were used to

20 A the snake size
B snakes size
C the size of a snake
D size of snake

21 A will be
B should be
C would be
D would have been

The __22__ unusual cross-section __23__ a factor in their gliding ability that works with the body undulations, says Socha. His team's model suggests that the amount of lift the UFO shape provides varies depending on its orientation in the air, so the body movements may help the snake to carefully control __24__ of lift while airborne.

The tip of the snake's tail, meanwhile, does not flatten out during flight and __25__ as a rudder. "One of the snakes I worked with had a naturally paralysed tail, it could glide well but it could never turn," Socha notes.

Together, these factors come together __26__ a __27__ effective little glider. Based __28__ glide performance, Socha says their aerodynamics are pretty __29__ flying squirrels'.

Not bad for an animal with __30__ limbs.

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**/30 p**

22 A snakes
B snake of
C snakes'
D snake

23 A will be
B is
C was
D used to be

24 A the size
B the number
C the collection
D the amount

25 A might be acted
B might have acted
C might be acting
D might have acting

26 A producing
B to produce
C having produced
D had had produced

27 A surprising
B surprise
C surprisingly
D –

28 A in
B on
C at
D to

29 A same
B similar as
C similar to
D similar

30 A no
B none
C –
D any

## 2.3

### Produktiivinen aukkotehtävä

- Produktiivisen aukkotehtävän pohjana on teksti tai tekstejä, joissa on aukkoja, jotka pitää täydentää.
- Lue teksti ensin kokonaan, jotta saat siitä yleiskäsityksen.
- Muodosta kokonaiskuva aukotetusta lauseesta, etsi esim. tekijä ja verbi sekä selvitä aikamuoto.
- Jos vihjeenä on englanninkielinen verbi perusmuodossa, se tulee yleensä taivuttaa oikeaan muotoon (aikamuoto, passiivi jne.). Älä käännä sitä suomeksi.
- Jos vihjeenä on suomenkielinen sana, se tulee kääntää englanniksi oikeassa muodossaan.
- Joskus vihjettä ei ole, silloin lauseesta puuttuu usein prepositio, artikkeli tai jokin muu idiomaattinen ilmaus.
- Muista tarkka kirjoitusasu: muista isot kirjaimet, monikon heittomerkin oikea paikka jne.

Blooming corpse flower.

**Fill in the blanks using suggestions when given.**
**Write your answers in the given order.**

## 'Corpse flower' blooms for the first time in 11 years

A __1__ "corpse flower" which emits the smell of rotting flesh __2__ to attract thousands of people after it bloomed __3__ in eleven years. The titan arum flowered __4__ at the Cambridge University Botanic Garden.

Lasting for just two days, the flower emits its smell – described as "rotten eggs" and a "dead donkey" – to attract pollinators. __5__ 1,000 people queued up to catch a whiff of the smell in the first four hours after the flower bloomed, according to BBC reports. __6__ more are expected, with the garden staying open __7__ 10pm tonight to meet demand.

A live webcam, which has been streaming footage of the foul-smelling plant, crashed several times as enthusiasts __8__ to view its progress over the last week.

The flower – full name *Amorphophallus titanum* – __9__ its time to open and has been nicknamed "Tiny Titan" as it is much smaller __10__ others in its __11__. It emits its smell mainly during the night by heating itself up to 40°C.

Professor Beverley Glover, director of the garden, told the BBC: "The heat __12__ to distribute sulphurous compounds – the atrocious stench – across vast distances in its native Sumatra to lure its pollinators, thought to be carrion beetles and blowflies.

"The stink, __13__ comes in pulses through the night, has been described __14__ being like 'rotten eggs', 'dead donkey', 'dirty laundry' and 'smelly feet'."

Hardeep Mathau. © Independent.co.uk, 2015.

**/14 p**

1 harvinainen
2 *expect*
3 ensimmäistä kertaa
4 lauantai-iltapäivänä
5 Lähes
6 Paljon
7 saakka
8 *log in*
9 *take*
10 kuin
11 laji
12 *help*
13 relatiivipronomini
14

## 2.4

**Fill in the blanks using suggestions when given. Write your answers in the given order.**

### To save the oceans, these guys are turning to sci-fi

Earth's oceans __1__ a rough time right now. They're oily, hot, acidic, full of dead fish – and their levels are rising. But even though these things are true, it can be hard to care about the oceans' subtle changes over __2__. Every time you go to the beach, everything's still __3__ blue and salty and vast __3__ it ever was. But these changes directly __4__ human life (just ask the Marshall Islands).

So to make the oceans' plight more relatable, a __5__ sustainability group is putting out a message that will hit you where it counts: right in the nerd.

1 *have*

2 vuosikymmenet

3

4 vaikuttaa

5 ruotsalainen

Andrew Merrie, a sustainability scientist at Stockholm University's Resilience Centre, thinks science fiction __6__ in attracting attention where scientific papers have failed. "__7__ is no easy entry point to scientific papers," says Merrie. "__8__ in my gut that science fiction – taking changes in technology and socioeconomics and politics and putting them in a different context – has a lot of value." So he sifted through __9__ scientific papers, wrote up some stories __10__ on them, and commissioned images from nerd-approved conceptual artist Simon Stålenhag. If you recognize his style, it's because Stålenhag also did the cover art of a little game called *No Man's Sky*.

It's a pretty Silicon Valley-esque strategy: using science fiction to get a handle on the implications of future technologies, social structures, or (in this case) environmental conditions. The technical name is science fiction prototyping, __11__ futurist Brian Johnson came up with when he needed a way to help Intel engineers anticipate the way people use the stuff they were making. __12__ Merrie and the Stockholm Resilience Centre, they hope their narratives and images will help people understand the implications of __13__ the ocean get all radioactive green and steamy. "We're trying to create empathy for the oceans," Merrie says. "So __14__ people and policy makers will want to go into the science."

Emma Grey Ellis/Wired; © Condé Nast

**/14 p**

6 voi menestyä
7 muodollinen subjekti
8 Olen aina tuntenut
9 kymmeniä
10 *base*
11 relatiivipronomini
12 mitä tulee
13 *let*
14 toivottavasti

## 2.5

### Dialogin täydentäminen

- Kirjoita dialogiin siitä puuttuvat osuudet kohdekielellä niin, että ne sopivat luontevasti valmiiksi annettuun tilanteeseen.

**You have a summer job at a Finnish canoe centre that arranges canoe tours for visitors to the Saimaa region. A foreign tourist walks into your office. Write out the summer worker's replies in English. You don't have to translate word for word. Remember to be polite.**

#### Summer job

Tourist: Hi, I'd like to ask a little about these tours you offer.
Summer worker: Sure. How can I help you?

Tourist: These trips you organise, would I need a lot of experience to join one?
1 *Kerro, että matkoja on laaja kirjo, sekä aloittelijoille että kokeneille.*

Tourist: Good to hear. I've only been in a canoe once, and that was in a swimming pool.
2 *Kerro, että kaikki tulee menemään hyvin. Aloittelijat koulutetaan, kaikilla on pelastusliivit, ja kaikki kanootit ovat hyvin vakaita.*

Tourist: That sounds just right for me. I guess this is a popular place for canoeing. I mean it's beautiful.
3 *Kerro, että olet samaa mieltä. Mainitse, että vesi on puhdasta ja että siellä on kokonainen verkosto järviä ja jokia. Yksi pariskunta kertoi eilen, että he olivat jopa nähneet hylkeen.*

Tourist: Sounds amazing! But some of the tours take a week. Where do you stop? Where do you spend the night?
4 *Kerro, että yöpyminen tapahtuu saarilla, ja siellä pidetään kahvi ja ruokataukoja. Selitä jokamiehen oikeudet.*

Tourist: I like the sound of that. I take it I'd be travelling as part of a group?
5 *Kerro, että näin on. Lisäksi jokaisella ryhmällä on oma opas. Ruoka ja varusteet kuuluvat hintaan. Jos et ole tyytyväinen palveluun, saat rahasi takaisin.*

Tourist: OK. One thing, though. I don't speak Finnish. Is that going to be a problem?

6 *Vakuuta hänelle, ettei se ole ongelma. Kaikki oppaat puhuvat englantia, ja monet ryhmässä haluavat harjoitella englantia.*

Tourist: That's wonderful. So, what kind of trip do you recommend?

7 *Ehdota hänelle alkajaisiksi yhden päivän matkaa. Jos se menee hyvin, he voivat tehdä sen jälkeen pidemmän retken.*

Tourist: That's exactly what I'll do. Can I book a trip for tomorrow?
I can't wait to try this.

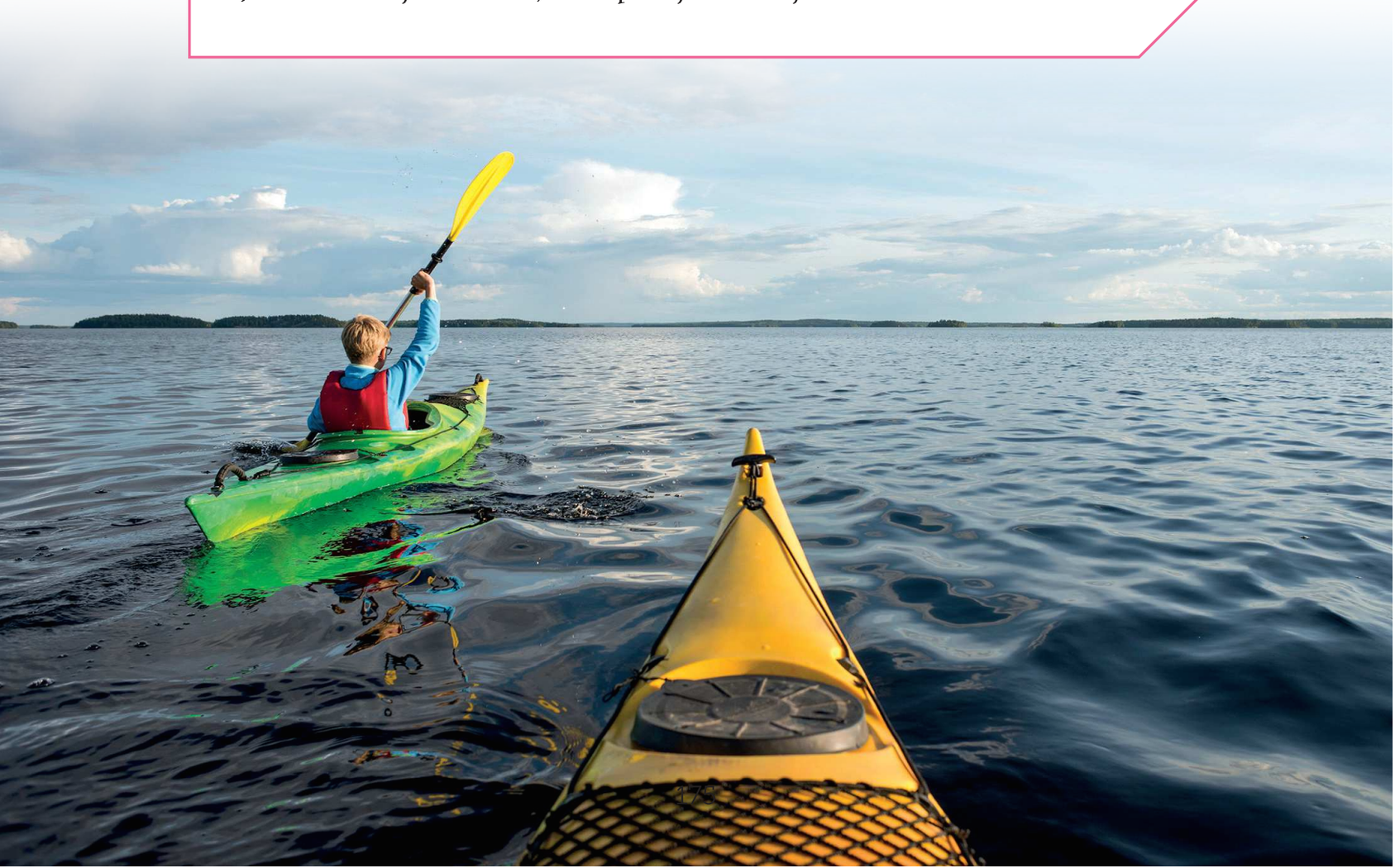
**/14 p**

## Asiatarkka käännös

Final exam focus

- Asiatarkassa käännöksessä ilmaistaan asiatarkasti tavoitekielellä lause, virke tai tekstikatkelma.
- Lue ja pyri ymmärtämään koko teksti ennen kääntämistä.
- Selvitä alleviivatusta lauseesta tekijä ja verbi sekä aikamuoto. Tee lauseesta järkevä, ja käytä käännöksessä vain yhtä kieltä.

Jos haluat harjoitella tätä, saat opettajaltasi harjoitusmonisteen.



## Final exam focus 3

# Listening comprehension

Ylioppilaskokeessa testataan kuullunymmärtämistä erityyppisillä tehtävillä. Jos sinulla on mahdollisuus kuunnella osio kahteen kertaan, keskity ensimmäisellä kuuntelukerralla vain kuuntelemiseen, jotta saat kokonaiskuvan tarinasta. Voit ennen kuuntelun alkua lukea kysymykset läpi, mutta älä kuuntele ja vastaa kysymyksiin yhtä aikaa.

## Part I

### Monivalintavastaukset

Final exam focus

- Lue ennen kuuntelua tai tauon aikana kysymys/kysymykset. Lue myös vaihtoehdot, jos jää aikaa.
- Tärkeintä on, että ehdit lukea kysymykset läpi, ja tiedät kuunnellessasi, millaista tietoa yrität poimia tarinasta.
- Älä keskity yksittäiseen outoon sanaan vaihtoehdoissa. Sen ymmärtäminen ei aina ole välttämätöntä kokonaisuuden kannalta.

**First, listen to the recording straight through, then in short sections. Answer questions 1–8.**

1 The book is about...
- A how snakes were created.
- B the beginning of the world.
- C the end of the world.

• • •

2 Why did the Rainbow Serpent wake up?
- A She was hungry and hunted frogs for food.
- B Nobody knows for sure.
- C She had a story to tell.

• • •

3 How were lakes and rivers created?

A The Rainbow Serpent squeezed the water out of the frogs.
B The Rainbow Serpent asked the frogs to make them.
C The Rainbow Serpent got water from the frogs which filled her tracks.

• • •

4 Which statement is true?

A The sound of running water woke animals up.
B The animals spent time with their own species.
C The animals were in paradise and they had nothing to do.

• • •

5 Laws created by the Rainbow Serpent

A caused the animals to rebel against her.
B caused some animals to turn into humans.
C made her the queen of all animals.

• • •

6 What could you do with the totems?

A Your own totem animal is not to be eaten.
B Totem animals are never to be eaten by anybody.
C You are only allowed to eat your own totem animal.

• • •

7 Why is this myth ironic from the Aboriginals' point of view?

A They have had to fight each other.
B They exploited their lands.
C Their land was taken away by Europeans.

• • •

8 Is this myth told as the author heard it?

A No. Myths never are.
B Yes. It is told word for word as she heard it.
C She doesn't tell us because it is her secret.

/8 p

## Part II

### Oikein-väärin väittämät

Final exam focus

- Lue väittämä ennen kuuntelemista.
- Kiinnitä erityistä huomiota ajanmääreisiin, kielteisiin muotoihin, adjektiiveihin ja indefiniitti-pronomineihin (esim. kaikki, jokainen).
- Usein yksi sana ratkaisee, onko väittämä oikein tai väärin.

**Listen to the recording. You will be able to hear this part twice: first straight through, then in short sections. Decide if statements 9–13 are true or false.**

| | | true | false |
|---|---|---|---|
| 9 | Poor soil and the scarcity of rain in the Namib desert causes grass circles. | ☐ | ☐ |
| 10 | This phenomenon is unique in the world. | ☐ | ☐ |
| 11 | The reason for the circles is the rivalry between different plants. | ☐ | ☐ |
| 12 | The theory of fairy circles cannot be tested with computer simulations. | ☐ | ☐ |
| 13 | Poorer soil causes smaller circles. | ☐ | ☐ |

/5 p

Fairy circles in the Namib desert.

## Part III

**Listen to a talk given by Amy Greenfield. You will hear the extract twice: first straight through and then in short sections. Answer questions 14–19.**

14 What is said about the colour red in colonial times?

A Only royalty wore red.
B Dyers wanted to find a red dye that didn't fade easily.
C Red dye was only obtainable from Mexican plants.

• • •

15 What is said about male cochineal insects?

A They look very similar to the females.
B Their mouthparts wither away when they become too old to feed themselves.
C Their main function in life is reproduction.

16 Why does the female cochineal insect produce carminic acid?

A It is needed to repel enemy attacks.
B It is needed to feed the males.
C It is needed for fertilising the eggs.

• • •

17 Why is corporate espionage mentioned?

A Spanish traders wanted to know the origin of the carmine red colour.
B Competing trade partners wanted to find out about the source of the red colour.
C Spying scientists discovered that the origin of the red dye was a plant from Mexico.

• • •

18 Why was cochineal dye so valuable?

A Cochineal insects were only bred in Mexico.
B You needed as many as 17 000 insects to get enough dye for one rug.
C It was very hard to breed the insects outside of their natural habitat.

• • •

19 Why is cochineal dye becoming popular again?

A It is better for your health.
B It is environmentally friendly.
C Because of global warming, the insects are easier to breed today.

**/6 p**

## Part IV

**You will hear six short items. You will hear each once.**
**Answer questions 20–25.**

20 What is said about nature in the Chernobyl area?

A Because the area is contaminated, there are hardly any animal species.
B Ordinary human use of land is worse for animals than a nuclear accident.
C There are more bears in the Chernobyl area than in the neighbouring nature reserve.

• • •

21 What is the city of Oslo aiming at?

A Mainly limiting the emissions caused by transport.
B Developing energy resources they have recently found.
C More effective distribution of energy.

• • •

22 Why is a vegetarian's carbon footprint smaller than a meat eater's?

A Flatulence caused by meat eaters causes methane.
B Flatulence caused by cattle causes methane.
C Vegetarians only eat half of what meat eaters eat.

• • •

23 What is the reason the oryx can survive in the desert?

A They can wander without drinking for a month.
B They can cool their body temperature.
C They can cool their blood.

• • •

24 What does the advert say about the turtle conservation holiday in Greece?

A During your volunteer project you need to pay for your flights.
B Your charity work takes about eight hours a day.
C For this volunteer project you don't need any training at all.

• • •

25 What is true about this weather phenomenon?

A Cyclones are caused by violent winds.
B Hurricanes are more violent than typhoons.
C Typhoons can cause torrential rains.

**/6 p**

## Part V

**You will hear five short dialogues. You will hear each once. Answer questions 26–30.**

26 What would the man probably say next?
- A I want to watch another programme.
- B I think that is not far enough.
- C I didn't realise that they flew *that* far!

• • •

27 What would the woman probably say next?
- A And that's dangerous work eating it?
- B But basically I'd be eating spit?
- C But it's always best to be transparent, right?

• • •

28 What would the woman probably say next?
- A I bet that's a problem for GM.
- B It's not the end of the world.
- C That's a good thing, surely?

• • •

29 What would the man probably say next?
- A I bet it does.
- B That sounds weird.
- C What you see is what you get.

• • •

30 What would the woman probably say next?
- A You should just wear more polyester.
- B Much better. And it's readily available nowadays.
- C Easy come, easy go.

**/5 p**

## Part VI

### Avokysymykset

- Lue kysymys huolella.
- Usein vastaus kirjoitetaan suomeksi, mutta ei aina. Kysymys ja vastaus ovat samalla kielellä.
- Vastauksessa tarvitaan usein kaksi tai useampia asioita.
- Tee tarvittaessa muistiinpanoja kuuntelun aikana listaamalla avainsanoja. Muotoile lopullinen vastaus vasta kun olet lakannut kuuntelemasta.
- Perusta vastauksesi aina siihen, mitä olet äänitteeltä kuullut. Tarinat voivat olla ihmeellisiä ja täytyy vain luottaa, että olet luultavasti ymmärtänyt kummallisen tarinan aivan oikein.

**Tässä osassa kuulet viisi otetta radio-ohjelmasta. Kuulet kunkin otteen vain kerran. Kuultuasi otteen vastaa kysymykseen lyhyesti suomeksi.**

a) Mikä yhdistää hämähäkkejä ja musiikkia? Mitä hyötyä tästä on hämähäkille?
b) Miten Thompson-joki ja coolibah-puu liittyvät toisiinsa (kaksi asiaa)?
c) Miten poika pelastui palavasta talosta ja miksi?
d) Mistä Odin sai tietoonsa kaikki maailman tapahtumat?
e) Miten nykypäivän turistit eroavat entisajan tutkimusmatkailijoista? **/10 p**

## Part VII

**Katso video ja vastaa kysymyksiin suomeksi.**

a) Milloin lintuemo munii munat? Miten kauan munia haudotaan?
b) Kuinka monta munaa lintu munii? Mitä erikoista munien hautomisessa on?
c) Millaista ruokaa linnunpoikaset saavat?
d) Miten linnunpoikasten luonnetta kuvataan? Mainitse kaksi asiaa.
e) Milloin linnunpoikaset alkavat harjoitella lentoa? Miten se tapahtuu? **/10 p**

## Final exam focus 4

# Writing

## Ylioppilaskokeen kirjoitelma

### Mikä ylioppilaskokeen kirjoitelma on?

Se on looginen kokonaisuus, jossa näytät vieraan kielen osaamisen tasosi. Tavoitteena on antaa lukijalle miellyttävä lukukokemus.

### Kirjoitelma vieraalla kielellä on näyttö taidoistasi.

- Näytä mitä osaat.
- Kirjoita tasolla, jonka tunnet hallitsevasi.
- Harkitse tarkkaan, haluatko kokeilla yo-kokeessa jotakin uutta, mitä et ole harjoitellut aiemmin.
- Saat käyttää mielikuvitusta kirjoittaessasi. Kaiken kirjoittamasi ei tarvitse olla totta.

**Kirjoittaminen on tekniikkaa ja taktiikkaa, etene näin:**

- Valitse aihepiiri huolella. Lue tarkasti otsikko ja mahdollinen ohjaus kirjoitelmaan.
- Valitse otsikko, josta sinulla on sanottavaa ja pystyt heti huomaamaan, että hallitset tarvittavan sanaston.
- Kun olet löytänyt otsikon, josta haluat kirjoittaa, mieti mikä tekstityyppi on kyseessä (essee, argumentatiivinen, puhe, kuvaus).
- Tee suunnitelma (se voi olla mindmap, listaus, voit kirjoittaa jo kokonaisia lauseitakin ylös).
- Pyri ajattelemaan englanniksi. Se onnistuu, kun muodostat lauseita mielessäsi englanniksi.
- Järjestä ajatuksesi kolmeen–neljään kappaleeseen (aloitus, kaksi–kolme käsittelykappaletta – lopetus).
- Muista lopuksi tarkistaa kirjoitelmasi: voit vaikka lukea lause kerrallaan kirjoitelmasi lopusta alkuun ja alusta loppuun.

### Ennen kirjoituskoetta: harjoittele ja kertaa

Kirjoita harjoitusaineita. Voit pyytää ystävää arvioimaan niitä. Apuna voit käyttää arviointikaavaketta, joka löytyy On Track 7 *How to write* -osiosta.

### *How to write* -osiosta kannattaa kerrata ainakin seuraavat tekstityypit:

- a composition/an essay (kirjoitelma, essee)
- a description (kuvaileva kirjoitelma)
- a speech (puhe)
- a letter and an email (kirje/sähköposti)
- a letter to the editor (mielipidekirjoitus)
- an argumentative essay (argumentatiivinen kirjoitelma)

## Writing topics

**Unit 1**

1) **We need more national parks in Finland!**
**No more national parks in Finland!**
Write a speech where you argue for or against having more national parks in Finland. Your audience is your local city council members who have invited a young person to give a talk on the topic.

2) **Living with the animals**
"Urban development and overpopulation are bigger threats to the survival of wild animals than illegal hunting or poaching."
Do you agree or disagree with this statement?

3) **No animal testing!**
You are strongly opposed to using animals in any form of research. Write an email to a company that uses animals to test their products on, explaining your point of view.

**Unit 2**

4) **Flying prohibited**
"Restricting air travel is the most effective way to restrict air pollution."
Do you agree or disagree with this statement?

5) **Urban setting in a book I have read or a film I have seen**
Describe the urban setting in a film or a book that you have read (e.g. *Hunger Games*, *Lion*, *Blade Runner*). What role did it play in the book/film? Would it be an environment in which you would like to live?

6) **Individual vs. global**
Some people think that climate change is a global problem that can only be tackled by governments. Others believe individual choices are the cause of, and the solution to, climate change. What is your opinion?

7) **Forest clearance**
"Forests are cut down for a reason, you know. We need the timber and space for new homes. It's called progress. So, let's stop complaining every time a few trees are cut down."
Write a response to this online post.

## Unit 3

8) **Zoos**
"Zoos are not ideal, but they are essential for educating people, especially children, about different kinds of animals." What do you think about zoos? Write a letter to the editor in response to the comment, taken from an online article about zoos.

9) **My favourite green space**
Think of a green space in your neighbourhood – a park, a forest, a place by the lake, etc. Describe it and the impact it has on your life.

10) **Urbanisation**
Two thirds of the Finnish population live south of Tampere. The government feels that this needs to change. They have asked young people for ideas and recommendations. Write an email to the Department of Planning, expressing your opinion and suggesting ways to address this problem.

11) **I love my town**
Write an essay where you describe your town. What do you like or dislike about it? What are the pros and cons about living there?

12) **Green cities**
Is a city without cars a utopian dream, or will it soon become a reality? How can the number of cars in cities be controlled? What would it be like to live in a carless city? Write a speech where you consider these questions. Your audience is a group of high school students.

## Final exam focus 5

# Oral exercises

## 5.1

**Tekstin lukeminen ääneen**

**Work in pairs. Choose a text you would like to study. Select different texts. Study your text. Then read it aloud to your partner. Ask your partner the questions that follow the text.**

### In the shadow of the volcano

Why would anyone choose to live next to a volcano? The risks are obvious. Volcanoes spew out poisonous gases that can kill anyone unlucky enough to breathe these toxic fumes. Then there are the 1,000°C lava flows that spill out of the craters, burning up everything in their path. Not to mention the ash that rains down on nearby farms, destroying crops.

So why do millions of people around the world choose to live in the shadow of active volcanoes? Well, that same volcanic ash that can ruin harvests also produces a very fertile soil. The slopes of Sicily's Mt Etna, for example, offer higher crop yields than anywhere else on the island. On top of that, valuable minerals and metals can be found near volcanic sites such as tin, copper, silver and gold. Then there are countries like Iceland and Japan which make use of the ground heat as a source of geothermal energy. And finally, the volcano itself is often a draw for visitors from all over the world, bringing tourist dollars to local people.

Maybe a volcano isn't such a bad neighbour after all.

**Questions**

1 Would you live near a volcano or any other place where nature can be unpredictable? Why? Why not?
2 How have different countries taken advantage of volcanoes?
3 What kind of landscape would you like to live in? Explain why.

## Tasteless tomatoes

Ever wondered why so many of the tomatoes we buy in supermarkets are lacking in taste? The answer (surprise, surprise) is connected to financial gain. Tomato farmers care about yield – the number of tomatoes they can grow in a specific time period. Unfortunately, the genetic variants associated with high yields are not associated with tasty tomato flavors, a new study finds. That's why many consumers complain that store-bought tomatoes have a watery flavor.

So, what can be done? Can science help us reinstate the rich, sweet flavor of the tomato? Apparently so. Researchers have identified a number of volatile – which means airbone – compounds that activate smell-related receptors in the nose. These are essential for good flavor. By identifying the genes responsible for making these volatiles, scientists can create a new generation of delicious tomatoes.

### Questions

1 Have you ever felt that fruit and vegetables are sometimes less tasty? Why do you think they might be?
2 Have you noticed that food in certain situations tastes better than in others? Can you give any examples?
3 Do you eat fruit and vegetables five times a day? Why? Why not?

## Groundhog Day

In America, Groundhog Day is an annual event that you can watch on national TV. On the morning of 2 February crowds of up to 40,000 people gather in the borough of Punxsutawney in Pennsylvania to watch a groundhog – a species of small, furry mammal – emerge from a burrow. According to folklore, if the groundhog sees his shadow, then winter will go on for six more weeks. In other words, if the skies are sunny, people can expect a longer winter. If the day is cloudy however, and the groundhog is unable to see his own shadow, then warmer weather is on its way in the form of an early spring.

Despite the fact that the groundhog's predictions have an accuracy rate of only 39 percent, the tradition, which has been going since 1887, shows no sign of dying out.

### Questions

1 Have you heard about Groundhog Day?
2 Do you know any similar old-fashioned ways of predicting the weather? Give examples.
3 Does it make any difference to you if the winter is long and cold, or the summer sunny and hot? Why? Why not?

→

## The great escape

Inky the octopus won international fame after his stealthy escape from the National Aquarium of New Zealand. One night he slipped out of his aquarium tank, crawled across the floor, and escaped down a pipe to the ocean.

Inky made his getaway when maintenance workers accidentally left a small gap at the top of his enclosure. After escaping the tank, he made his way across the floor to a six-inch-wide drain. He squeezed his football-sized body in – octopuses are very flexible creatures – and made a break for the Pacific.

The aquarium's keepers noticed the escape when they came to work the following day and discovered that Inky was not in his tank. A less free-spirited octopus, Blotchy, remained behind.

Inky had resided at New Zealand's National Aquarium since 2014, when he was taken in after being caught in a lobster pot. The octopus's name was chosen from nominations submitted to a contest run by the Napier City Council.

### Questions

1 What do you think about zoos?
2 The employees at an aquarium need to be careful at work. What other jobs can you think of where a mistake might have dramatic consequences?
3 What do you think Inky's chances of survival were after leaving the aquarium? Give reasons for your answer.

## 5.2

**Tekstin selittäminen kohdekielellä**

Read the text carefully and then retell it in your own words to your partner.

### Kokeeko eläin surua?

Surun käsite pitää määritellä, jotta voidaan tutkia, surevatko eläimet. Ensinnäkin eläinyksilöiden on pitänyt viihtyä yhdessä muussakin kuin ravinnonhankkimis- tai lisääntymismielessä. Toiseksi eläin muuttaa käyttäytymistään kumppaninsa tai ystävänsä kuoltua tai hävittyä. Se esimerkiksi alkaa syödä vähemmän kuin normaalisti. Naarasnorsuilla ja -kirahveilla on havaittu tällaista käyttäytymistä, jos niiden poikanen on menehtynyt. Tarvitaan lisää tutkimuksia eläinten sosiaalisuudesta, jotta voidaan sanoa, ymmärtääkö eläin kuoleman käsitteen. Tietty laji ei koe surua eri tavalla kuin toinen, vaan surun kokeminen riippuu tilanteesta ja yksilöstä.

- Do pets have similar feelings to humans?
- When it comes to animals, what areas would you like to research?

### Ole kriittinen kierrättäjä!

Useat suomalaiset ovat innostuneita kierrättämisestä. Joskus heidän pitäisi kuitenkin olla kriittisempiä laittaessaan vanhoja huonekaluja tai vaatteita kierrätykseen. Löytyykö kaikille vanhoille tavaroille todella käyttäjiä? Kierrätyskeskukset pursuavat tavaraa, jota kukaan ei halua. Monet käyttävät kierrätystä tekosyynä ostaa yhä enemmän tavaroita. Jos ei itse enää tarvitse jotain tavaraa tai vaatetta, niin kuka on se mystinen ’joku’, joka voisi sitä käyttää? Jos tuote on vielä hyvä, miksi ostaa uutta? Kierrättämisideologia toimii parhaimmillaan niin, että ihminen ostaa käytettyä ja kierrättää vanhaa. Kirpputoreilta voi tehdä hienoja löytöjä murto-osalla siitä, mitä uusi tuote maksaisi.

- Do you recycle? Give examples. If not, explain why.
- Do you think about recycling when you buy new things? Why? Why not?

→

## Naapurina susien kanssa jo 10 vuotta

Lammasfarmari pienellä suomalaisella paikkakunnalla sai tiedon lähellä nähdystä susipariskunnasta kymmenen vuotta sitten. Eräänä kesäaamuna hän löysi laitumelta lampaitaan, joiden kimppuun oli hyökätty. Näky oli karmea. Kahta lammasta oli syöty, ja sudet olivat opettaneet näin pentujaan. Kun paikalle saatiin tarvikkeita susiaitaa varten, sudet olivat käyneet aterioimassa jo kolmesti. Sähköaita olisi tullut liian kalliiksi. Koska laidun oli rannassa, sudet olisivat päässeet paikalle myös uimalla. Maanviljelijä lopetti lampaiden kasvattamisen. Sudet kuuluvat suomalaiseen luontoon, mutta aivan ihmisasutuksen lähelle niitä ei kaivata. Lapsille järjestetään koulukyytejä, jos on tarvetta. Metsästäjät saattavat jopa kokea suden kilpailijaksi. Ehkä sudet auttavat ihmisiä ajattelemaan luonnon monimuotoisuutta.

- Which is more important in your opinion, the farmer's livelihood or the wolves' right to roam freely?
- Can you think of any other examples of wildlife getting too close to human beings?

**electric fence** sähköaita

## Karvainen juoksukaveri

Britti Dion Leonard osallistui kesäkuussa Kiinassa 250 km ultramaratonkisaan. Kuin tyhjästä reitin varrelle ilmestyi pieni koira, joka alkoi seurata häntä. Leonard ajatteli, ettei koira jaksa juosta kovin pitkään, mutta se juoksi hänen rinnallaan pitkät tovit. Gobin autiomaassa juoksija ja kisan järjestäjät kantoivat koiraa, koska lämpötila oli ajoittain yli 40 astetta. Viimeiset 10 km koira ja Leonard juoksivat kuitenkin yhdessä ja tulivat kisassa toiseksi. Juoksun jälkeen Leonard joutui palaamaan Englantiin yksin, mutta hän kerää nyt rahaa voidakseen maksaa koiran karanteenikulut ja saadakseen sen luokseen.

- What do you think about importing homeless dogs from abroad?
- "A house without a pet is not a home." Comment on this.

A faithful follower.

## 5.3

**Keskustelu**

In pairs, choose one of the following three topics.

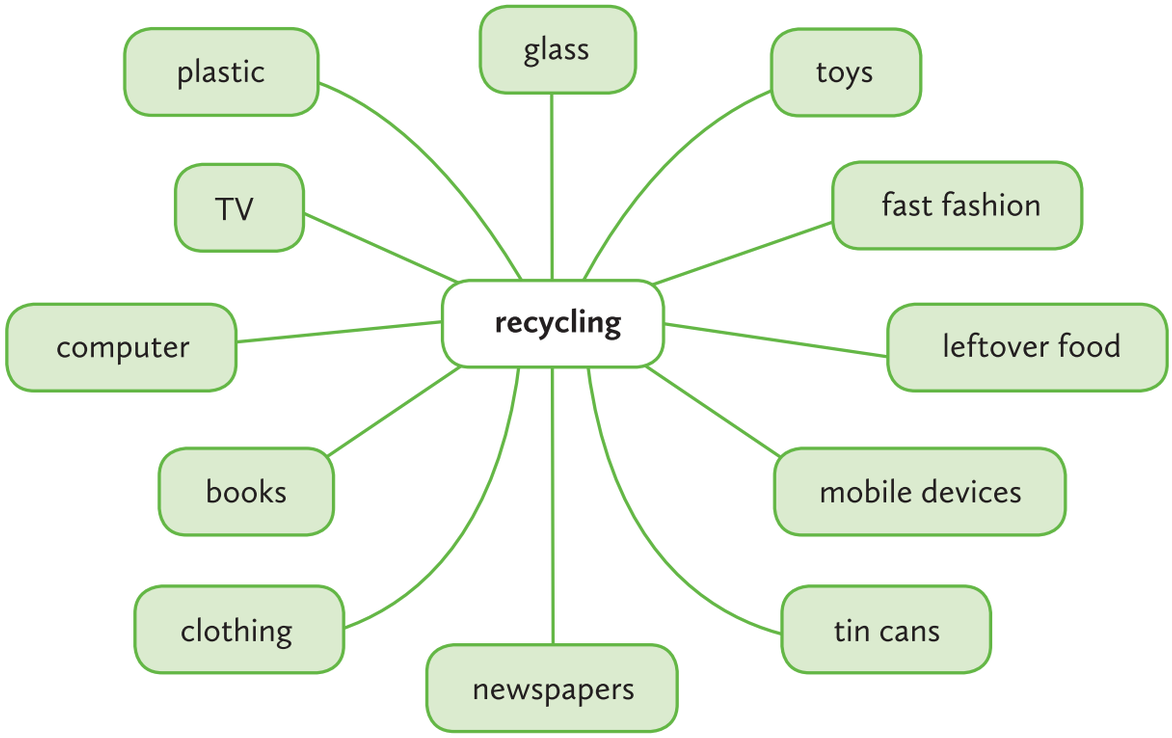
### 1 Schools and nature

In pairs, talk about Finnish schools and what they could do to help students develop a good, sustainable relationship with nature. Can you mention any positive or negative examples from your school experience? You could discuss the following ideas:

- field trips
- project days
- visits to farms close to school or home
- different subjects, lessons and courses

### 2 Recycling

Look at the mind map. Discuss the topic of recycling with your partner. Share your knowledge and opinions on as many aspects as you can in the time available. Make sure that during the discussion you both comment on what the other person says.



## 3 A phone call from abroad

**Read the situation, then act it out with your partner.**

Your friend, who lives abroad, would like to visit you. They are coming to Finland with a friend and are keen to explore the countryside near your home. Decide which one of you takes which role.

Possible items to discuss:

- time of year
- where in Finland
- how long
- what to see
- accommodation
- equipment e.g. tent, hiking boots
- how much money
- anything special close to your home

## 2G Shortened sentences. In pairs, decide which one of you is A and B. For more help, see the grammar section p. 199.

Student B: Translate sentences 4–6 into Finnish and check your partner's translations for sentences 1–3.

Student A: Turn to page 42.

### B's sentences

4 When applied to the screen of a mobile device, the plastic film improves readability.
5 Inspired by the insect, researchers have constructed a robotic cockroach.
6 All the scientists involved in biomimetics will benefit from the development of nanotechnology.

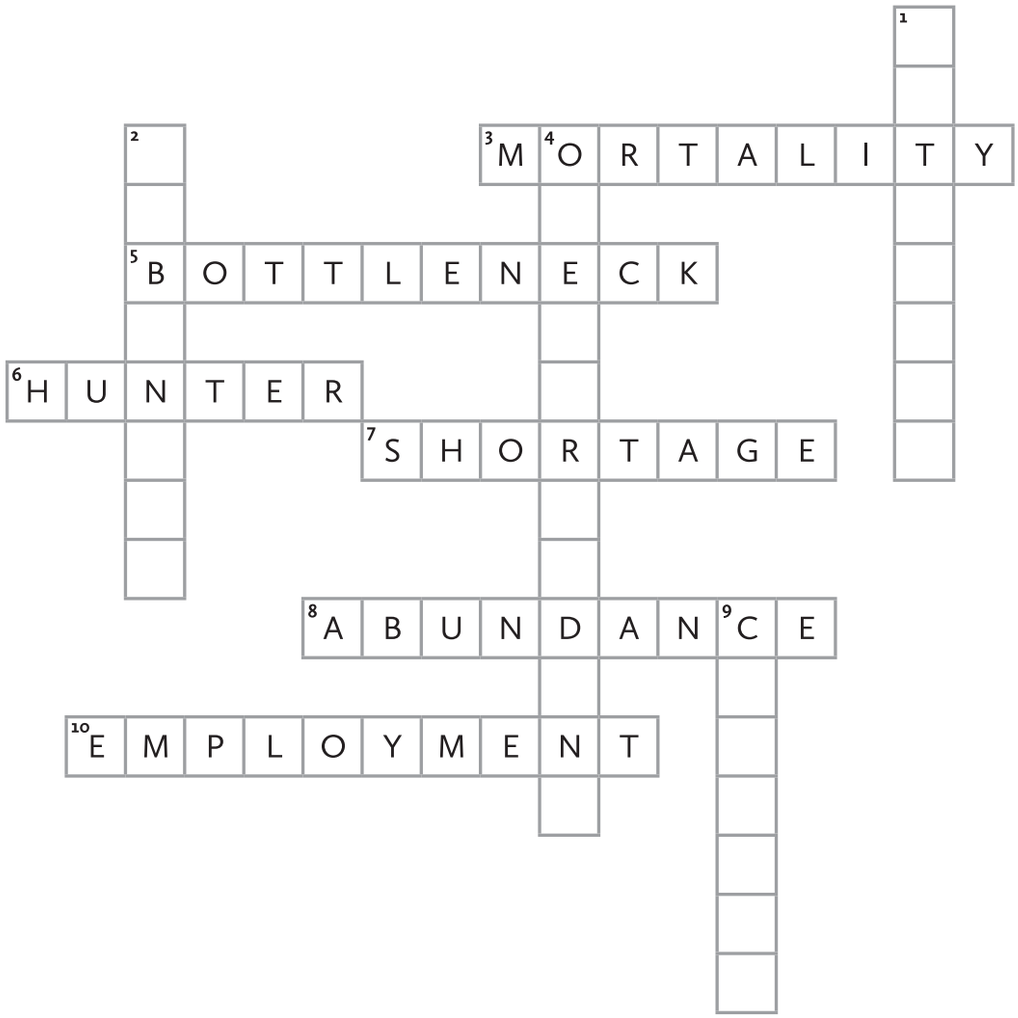
### A's sentences:

1 Kun sveitsiläinen keksijä tutki siemeniä mikroskoopin alla, hän huomasi, että niissä oli pieniä koukkuja. / Tutkiessaan siemeniä mikroskoopin alla, sveitsiläinen keksijä huomasi, että niissä oli pieniä koukkuja.
2 Tutkijat, jotka kehittivät värinäyttöjä ottivat mallia / saivat vaikutteita epätodennäköisestä lähteestä: perhosen siivistä.
3 Yöperhosten silmistä löytyvät monimutkaiset mikrorakenteet keräävät optimaalisen määrän valoa ilman heijastusta. / Monimutkaiset mikrorakenteet, joita on yöperhosten silmissä, keräävät optimaalisen määrän valoa ilman heijastusta.

**11H** **Talking crossword. You and your partner both have the same crossword, but half of the words are missing in each version. Give each other clues to fill in the missing words.**

Student A: Turn to page 136. Student B: Use the crossword on this page.

Example: Student A: Could you give me a clue about 3 across?
Student B: Sure. It is the amount of people who die within a certain period of time.



# Sanajärjestys · Word order

Väitelauseiden perussanajärjestys on SPOTPA ja kysymyksissä KASPOTPA.

| kysymyssana | apuverbi | subjekti | predikaatti | objekti | tapa | paikka | aika |
|---|---|---|---|---|---|---|---|
| **K** | **A** | **S** | **P** | **O** | **T** | **P** | **A** |
| | | I | met | him | briefly | in the park | today. |
| | Did | you | meet | him | | | today? |
| Why | are | you | shouting at | me | so angrily? | | |

## Liikkuvien määreiden paikka

Liikkuvat määreet (*nearly, probably, really* jne.) ja epämääräistä aikaa ilmaisevat adverbit (*often, sometimes, usually, never* jne.) sijoittuvat

| | |
|---|---|
| 1 Pääverbin **eteen** | I **usually** buy local food. |
| 2 Ensimmäisen apuverbin **jälkeen** | He has **never** seen a rhino. |
| 3 Be-verbin **jälkeen** | You are **probably** right. |

## Poikkeuksia perussääntöihin

- Kielteinen tai rajoittava sana lauseen alussa, esim. **never**, **little**, **no sooner**, **not until**, **seldom**, **not only** aiheuttaa käänteisen sanajärjestyksen. Tätä käytetään tehokeinona etenkin kirjoitetussa kielessä.

  **Little did I know** that the bear was about to attack.

- Ajan määre korostuu, jos sen laittaa lauseen alkuun.

  **Yesterday** she said that we should start the protest at 9 am.
  But **now** she is saying that it's too early.

- Kun lauseessa on useampia ajan- ja paikanmääreitä, tarkempi tulee ensin.

  Could we meet **at seven in the evening** **in the cafe near the station**?

- Puhujan asennetta ilmaisevat adverbit sijoittuvat lauseen alkuun.

  **Luckily**, not all the trees were cut down.

- Epäsuorassa kysymyksessä on suora sanajärjestys.

  Suora kysymys: What time are you going?
  → Epäsuora: He wanted to know what time **I was** going.

- Englannin kielessä predikaattia ja objektia ei yleensä eroteta toisistaan,

  P O
  vrt. pidän paljon vaeltamisesta – I like hiking **very much**.

  Poikkeuksena on objektiivi (kenelle), joka voi sijoittua predikaatin ja objektin väliin.

  P O P O
  They gave **me** the puppy. (= They gave the puppy **to me**.)

- **Enough**-sana tulee ennen substantiivia, mutta adjektiivin jälkeen.

  (subst.)
  Do you have **enough** **money**?

  (adj.)
  It's not perfect but it's **good** **enough**.

## G1 Translate the sentences into English.

1 Näin Tomin ja Lisan eilen vain pikaisesti mielenosoituksessa.
2 He ovat tavallisesti myöhässä.
3 Lisa ei koskaan vahingoittaisi eläimiä.
4 Alex halusi tietää, paljonko luomuomenat tulisivat maksamaan.
5 Saitko ruokaa tarpeeksi? Oliko se tarpeeksi terveellistä?
6 Voisimmeko tavata huomenna kahdelta kaupan edessä ostoskeskuksessa?
7 Tapaisin sinut mieluummin illalla puiston viereisessä ravintolassa.
8 Pidän niin paljon vegaaniruoasta!
9 Onneksi löysin ympäristöystävällisen läppärin.
10 Miten voin kierrättää vanhan tietokoneeni?

## G2 Write new sentences with a similar meaning beginning with the given word or phrase.

1 A nature documentary has not often won an Oscar.
→ **Rarely has** a nature documentary won an Oscar.

2 I was not only wet, but I was also freezing cold.
Not only...

3 The hunters had only just taken their positions when the capercaillie appeared.
Hardly...

4 He only felt relaxed with his pets.
Only with...

5 I didn't know then that Jack and I would be vegetarians one day.
Little...

6 I was sad and angry when I saw the animals in the zoo.
Not only...

**G3** In pairs, decide which one of you is A and B. Cover the other half. Take turns translating the sentences into English.

| | A | B |
|---|---|---|
| 1 | Miksi sinusta tuli kasvissyöjä? | **Why did you become a vegetarian?** |
| 2 | **Because I have always wanted to protect animals.** | Koska olen aina halunnut suojella eläimiä. |
| 3 | Minä syön lihaa ja kalaa, mutta söin eilen upean päivällisen joen varrella pienessä luomuravintolassa. Pitäisikö minun ryhtyä kasvissyöjäksi? | **I eat meat and fish, but I had a lovely dinner in a little organic restaurant by the river yesterday. Should I go vegetarian?** |
| 4 | **Yes, you can easily follow a vegetarian diet. There are millions of vegetarians in the world.** | Kyllä, voit helposti noudattaa kasvis-ruokavaliota. Maailmassa on miljoonia kasvissyöjiä. |
| 5 | Mitä ajattelet eläintarhoista? | **What do you think about zoos?** |
| 6 | **I would never visit a zoo. I don't know why you are asking that.** | En koskaan menisi eläintarhaan. En tiedä, miksi kysyt sitä. |
| 7 | Minä kävin viime vuonna tammikuussa Berliinissä eläintarhassa, ja eläimillä näytti olevan tarpeeksi tilaa. | **I visited a zoo in Berlin in January last year, / Last year in January, I visited a zoo in Berlin and the animals seemed to have plenty of space there.** |
| 8 | **I know that some endangered species live quite happily in the zoo.** | Tiedän kyllä, että jotkut uhanalaiset lajit elävät eläintarhassa onnellisesti. |
| 9 | Muuten, tiedätkö milloin Korkeasaari on perustettu? | **By the way, do you know when Korkeasaari was founded?** |
| 10 | **I have no idea, but I guess it must be over 50 years old.** | Ei aavistustakaan mutta luulen, että sen täytyy olla yli 50 vuotta vanha. |

# Lauseenvastikkeet · Shortened clauses

Lauseenvastikkeita käytetään etenkin kirjoitetussa kielessä tiivistämään tekstiä ja tuomaan lauserakenteisiin vaihtelua.

## Relatiivilauseet

| lause | lauseenvastike | muodostus |
|---|---|---|
| 1) Dr Vincent **is a scientist who specialises in** biomimetics. | 1) Dr Vincent is **a scientist specialising in** biomimetics. | 1) Aktiivissa: relatiivipronomini *who, which, that* pois ja verbistä ing-muoto |
| 2) Tests **which were conducted by** Dr Vincent confirmed his theory. | 2) Tests **conducted by** Dr Vincent confirmed his theory. | 2) Passiivissa: Relatiivipronomini ja *be*-verbi pois, jäljelle jää verbin 3. muoto |

## Aikaa ilmaisevat lauseet

| lause | lauseenvastike | muodostus |
|---|---|---|
| **After a group of scientists had studied** green leaves, they developed more efficient solar cells. | **After studying** green leaves, a group of scientists developed more efficient solar cells.<br><br>**Having studied** green leaves, a group of scientists...<br>Tutkittuaan vihreitä lehtiä... | 1) Konjunktio *when, while, before, after, since* ja verbistä ing-muoto<br><br>2) *Having* + verbin ed-muoto / 3. muoto |

## Syytä ilmaisevat sivulauseet

| | | |
|---|---|---|
| 1) **As dogs are able** to smell things humans can't, they are used to detect various diseases. | 1) **Being able** to smell things humans can't, dogs are used to detect various diseases. | 1) Verbistä ing-muoto |
| 2) **Because the researchers had spent** a lot of time on the project, they wanted it to be a success. | 2) **Having spent** a lot of time on the project, the researchers wanted it to be a success. | 2) Having + verbin ed-muoto / 3. muoto |

## Ehtolauseet

| lause | lauseenvastike | muodostus |
|---|---|---|
| **If fruit and vegetables are stored** properly, they will stay fresh for weeks. | **If stored** properly, fruit and vegetables will stay fresh for weeks. | *If, unless* + *be*-verbi pois, jäljelle jää verbin 3. muoto. |

## G4 Rewrite the sentences by shortening the parts in bold.

1 **Wolves which live** close to humans are often considered potentially dangerous.
2 In some countries, the government pays a reward for **each wolf that is killed**.
3 **When biologists studied** the behaviour of wild wolves, **they** found that wolves are very social animals.
4 **Since most people know** very little about wolves, **they** are likely to fear the animal.
5 **People who earn money** from protecting wild animals help the fight against poaching in African countries.
6 **After the police had investigated** the trafficking of elephant tusks for months, **they** finally arrested a group of poachers.
7 **Poachers who are caught** selling rhino horns or elephant tusks face life imprisonment.
8 **If rhino are killed** for their valuable horns at the current rate, they will become extinct soon.

### Vakiintuneita sanontoja

| | |
|---|---|
| **compared with/to** | verrattuna jhk |
| **considering** | ottaen huomioon |
| **generally speaking** | yleisesti ottaen |
| **given that** | ottaen huomioon |
| **including** | mukaan lukien |
| **judging by** | päätellen jstk |
| **providing/provided that** | edellyttäen että |
| **supposing that** | olettaen että |
| **weather permitting** | sään salliessa |

## G5 Translate the sentences into English.

1 Yleisesti ottaen luonto on hyväksi meidän terveydellemme ja onnellisuudellemme.
2 Poimittuamme litran mustikoita leivoimme piiraan.
3 Tomin kasvoissa olevista punaisista täplistä päätellen mökillä oli ollut paljon hyttysiä.
4 Vierailemme Pohjois-Lapissa tänä kesänä, edellyttäen että meillä on tarpeeksi aikaa.
5 Sään salliessa menemme patikoimaan siellä.
6 Koska olen suomalainen, olen tottunut näkemään rakeita ja räntää kesäkuussa.
7 Tiellä kävelevät porot aiheuttavat joskus onnettomuuksia pohjoisessa.
8 Kuunneltuani luonto-ohjelman päätin mennä kävelylle metsään.

# Harmony of tenses
# Aikamuotojen yhteensopivuus

Englannin aikamuodot voidaan jakaa kahteen aikamuotoryhmään, **nykyhetkeen** (preesens, perfekti, futuuri) ja **menneeseen aikaan** (imperfekti, pluskvamperfekti, konditionaali).

Saman virkkeen tai kertomuksen sisällä käytetään yleensä vain yhden aikamuotoryhmän muotoja.

## Nykyhetki

| **preesens** | **perfekti** | **futuuri** |
|---|---|---|
| I **am** a vegetarian, | I **have** always **been** one, | and I promise I **will never kill** an animal for food. |

## Mennyt aika

| **imperfekti** | **pluskvamperfekti** | **konditionaali** |
|---|---|---|
| They **heard** that | they **had won** in a lottery, | so they **would never be** poor again. |

Huomaa:

- **epäsuorassa kerronnassa**:

  My mum **asked** me if I **wanted** a new dog.

- **ehtolauseissa**:

  I **will go** to the moon **if** I **have** a chance. /
  I **would go** to the moon **if** I **had** a chance.

- Menneen ajan säännöstä voidaan poiketa, kun asia on edelleen voimassa:

  The teacher said water **boils** at 100°C.

## G6 Remember the harmony of tenses when you are writing in English. Pay attention to the verbs in the following story. Underline the verb forms.

**muzzle** turpa
**jugular vein** kaulavaltimo
**hide** nahka

Alex McRae works as a vet at Chester Zoo. It is challenging work, but always stimulating since he gets to handle a much wider range of animals than most vets.

It is eight am and he is going to take a blood sample from a zebra. A keeper has reported a change in the animal's behaviour. The zebra has been behaving aggressively all week, and Alex suspects a cut on its muzzle has become infected.

He needs the animal to remain calm while he takes the sample, so he gently strokes its neck and reassures the animal.

"It'll be alright, old girl," he says, as he slips the needle into the jugular vein.

The animal's hide feels hot under his fingers which suggests an infection. Once he has analysed the sample he will know for sure.

### Rewrite the story in the past tense.

Alex McRae _1_ as a vet at Chester Zoo. It _2_ challenging work, but always stimulating since he _3_ to handle a much wider range of animals than most vets.

It _4_ eight am and he _5_ take a blood sample from a zebra. A keeper _6_ a change in the animal's behaviour. The zebra _7_ aggressively all week, and Alex _8_ a cut on its muzzle _9_ infected.

He _10_ the animal to remain calm while he _11_ the sample, so he gently _12_ its neck and _13_ the animal.

"It'll be alright, old girl," he _14_, as he _15_ the needle into the jugular vein.

The animal's hide _16_ hot under his fingers which _17_ an infection. Once he _18_ the sample he _19_ for sure.

## Epäsuora kerronta

I'm going hiking after work.
I have seen a wolf near the trail,
but I will not let that stop me!

**Epäsuorassa kerronnassa** puhuja selostaa jonkun toisen kertomia asioita.

### Nykyhetki

**Johtolause preesensissä**, aikamuodot eivät muutu.

**She says**...
... she **is going** hiking after work. (preesens)
... she **has seen** a wolf near the trail. (perfekti)
... she **will not** let that stop her. (futuuri)

### Mennyt aika

**Johtolause imperfektissä**, aikamuodot muuttuvat.

**She said**...
... she **was going** hiking after work. (imperfekti)
... she **had seen** a wolf near the trail. (pluskvamperfekti)
... she **would not** let that stop her. (konditionaali)

Huomaa:
Imperfektistä tulee yleensä epäsuorassa kerronnassa pluskvamperfekti.

I once saw bear tracks.
→ She said that she had once seen bear tracks.

Where is the nearest recycling centre?
Where do you leave hazardous waste?
Is this the nearest recycling centre?

Huomaa:

- Epäsuorassa **kysymyksessä** pitää myös muuttaa aikamuotoja, lisäksi sanajärjestys pysyy suorana:

  **He asked** me...
  ... where the nearest recycling centre **was**.
  ... where we **left** hazardous waste.
  ... if this **was** the nearest recycling centre.

- Jos kysymyssana puuttuu, -ko/-kö on **if**.

  He asked me **if** this was the nearest recycling centre.

- Epäsuorassa kysymyksessä ei käytetä *do*-kysymyssanaa, ellei sitä tarvita kieltomuotoa varten.

  Why don't you compost your kitchen waste?
  → He asked me why we **didn't** compost our kitchen waste.

- Epäsuorassa käskyssä tai pyynnössä ei tapahdu aikamuotomuutoksia. Käytä silloin muotoa **to + infinitiivi**

  I want you **to go**. I asked him **to leave**.

## G7 Choose the correct alternative.

1 I asked him out for dinner, but he said he **has** / **had** already eaten.
2 They asked me why I **supported** / **have supported** The Green Party.
3 It's ten o'clock in the morning. The boy **wakes** / **woke** up and **realises** / **realised** he is in a jungle.
4 The girl told me that she **had lost** / **lost** her train ticket. She didn't know how she **would** / **will** get home.
5 The phone rang. It **was** / **is** Jack who wanted to say he **loved** / **loves** me.
6 Yesterday Tim said that he **was** / **is** feeling ill.
7 Mary says she **had** / **has** never seen such lovely animals and that she **will** / **would** definitely visit the place again.
8 I would **have** / **had** met Sir David Attenborough if I **had** / **have** been there on time.

## G8 Change into indirect speech.

1 “Where are you going?”

He asked me _____

2 “Who is your best friend?”

He asked me _____

3 “Do you want to reduce your carbon footprint?”

He asked me _____

4 “Did you see the latest news?”

He asked me _____

5 “Are you OK?”

He asked me _____

## G9 Translate the sentences into English.

1 Hän kysyi missä asuin vuonna 2010.
2 Hän kysyi paljonko kello on.
3 Hän kysyi vielä, milloin hän olisi kotona, jos hän lähtisi nyt.
4 Pyysin häntä myymään autonsa.
5 James sanoo asuvansa rannikolla. Hän sanoo ostavansa talon meren rannalta.
6 Tina sanoi muuttaneensa Lontooseen. Hän sanoi ostavansa talon Kensingtonista.
7 Mark ei aio koskaan muuttaa ulkomaille. Hän sanoi jäävänsä kotikaupunkiinsa.
8 Hän sanoi olleensa kävelemässä kadulla, kun joku oli törmännyt katulamppuun.

# Ehtolauseet · If clauses

Ehtolauseita on kolmea eri tyyppiä.

1 Mitä tapahtuu, jos...
(viitataan selvästi tulevaisuuteen)

2 Mitä tapahtuisi, jos...
(jossitellaan nykyhetken tai tulevaisuuden tapahtumia)

3 Mitä olisi tapahtunut, jos...
(jossitellaan menneitä tapahtumia)

| **if-lause** | **päälause** | **muodostus** |
|---|---|---|
| 1 **If** we **cycle** to work or school,<br>Jos pyöräilemme töihin tai kouluun | we **will reduce** our carbon footprint.<br>pienennämme hiilijalanjälkeämme. | if-lause preesens, päälause futuuri (will + verbin perusmuoto) |
| 2 **If** we **cycled** to work or school,<br>Jos pyöräilisimme töihin tai kouluun | we **would reduce** our carbon footprint.<br>pienentäisimme hiilijalanjälkeämme. | if-lause imperfekti, päälause 1. konditionaali (would + verbin perusmuoto) |
| 3 **If** we **had cycled** to work or school,<br>Jos olisimme pyöräilleet töihin tai kouluun | we **would have reduced** our carbon footprint.<br>olisimme pienentäneet hiilijalanjälkeämme. | if-lause pluskvam-perfekti, päälause 2. konditionaali (would have + verbin ed-muoto / 3. muoto |

Huomaa:

- Päälause voi tulla ennen sivulausetta. Tällöin lauseiden välissä ei käytetä pilkkua.

  We would reduce our carbon footprint **if** we cycled to work or school.

- Kieltolauseet

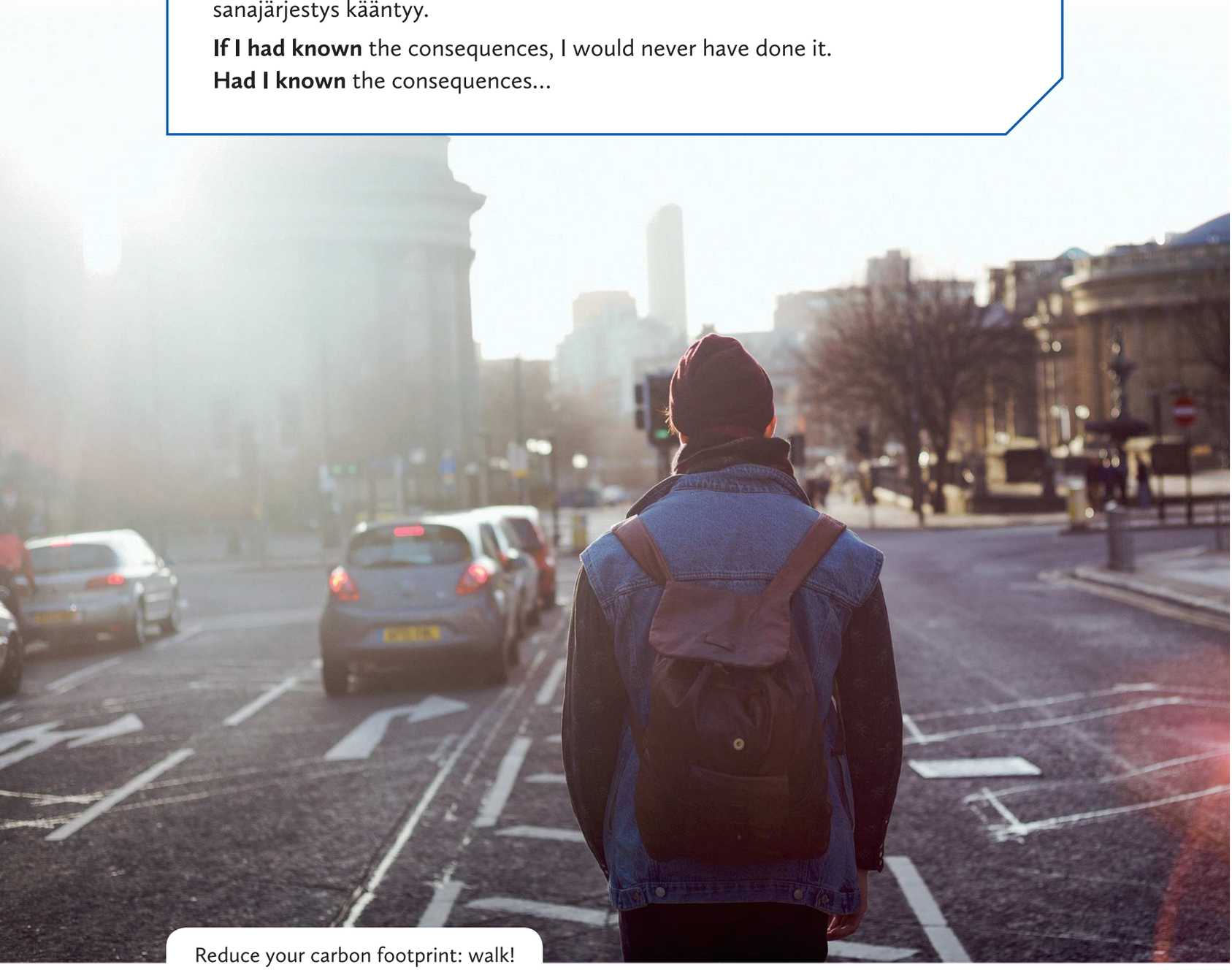
  We wouldn't cause so much pollution **if** we cycled to work or school.

- Kysymyslauseet

  Would we have reduced our carbon footprint **if** we had cycled to work or school?

- Kirjoitetussa kielessä ehtovirkkeen **if**-sanan voi jättää pois jolloin sanajärjestys kääntyy.

  **If I had known** the consequences, I would never have done it.
  **Had I known** the consequences...



Reduce your carbon footprint: walk!

## G10 Fill in the gaps according to the Finnish hints.

1 If I _____ closer to school, I _____ there every day. (asuisin – kävelisin)

2 I _____ all my plastic and metal if someone _____ me where the recycling banks were located in our area. (olisin kierrättänyt – olisi kertonut)

3 You _____ how to recycle different materials if you _____ _____ my instructions carefully. (opit – kuuntelet)

4 They _____ so much for their electricity if they _____ their energy consumption. (eivät olisi maksaneet – olisivat vähentäneet)

5 _____ more organic food if your local store _____ such a limited selection? (ostaisitko – ei olisi)

6 If I _____ the president of a country, I _____ global warming more seriously. (olisin – ottaisin)

7 If we _____ what would happen, _____ the first cars on the roads? (olisimme arvanneet – olisimmeko sallineet)

8 _____ that first barrel of oil if we _____ how the oil industry _____ _____? (Olisimmeko pumpanneet – olisimme tienneet – kehittyisi)

## Muita ehtolauseita

| | | |
|---|---|---|
| **If only / I wish**<br>kunpa | **If only / I wish I had time** to cook healthy food myself. | epärealistinen toive<br>→ lauseessa käytetään imperfektiä |
| | **If only / I wish I hadn't eaten** so many greasy hamburgers this week. | menneisyydestä puhuttaessa<br>→ lauseessa käytetään pluskvamperfektia |
| | **If only / I wish you would stop** talking about food. | Pahoittelu, ärtymys tai toive<br>→ konditionaali on mahdollinen |
| **as if / as though**<br>ikään kuin | Helen talks **as if / as though she knew** everything.<br>(ikään kuin hän tietäisi) | nykyajasta puhuttaessa<br>→ sivulauseessa käytetään imperfektiä |
| | James acted **as if / as though he had done** nothing wrong.<br>(ikään kuin ei olisi tehnyt) | menneisyydestä puhuttaessa<br>→ sivulauseessa käytetään pluskvamperfektiä<br><br>As if / as though kanssa **ei käytetä konditionaalia** kuten suomessa. |
| **even if / even though**<br>vaikkakin | **Even if I had a bike**, I wouldn't have time to cycle to school. | **even if** viittaa epätodellisiin kuviteltuihin tilanteisiin |
| | **Even though I know** air travel is bad for the climate, I still want to go abroad. | **even though** viittaa todellisiin tilanteisiin |

Green fingers.

## G11 Translate the sentences into English.

1 Kunpa olisin opiskellut enemmän biologiaa.
2 Vaikka olen tavallinen kansalainen, voin silti muuttaa asioita.
3 Kunpa minulla olisi aikaa kasvattaa omat vihannekseni.
4 Jotkut ihmiset käyttäytyvät ikään kuin he eivät piittaisi mistään.
5 Et olisi voinut tehdä parempaa päätöstä, vaikka olisit yrittänyt.
6 Joey ei olisi matkustanut ulkomaille, vaikka hänen vanhempansa olisivat maksaneet lipun.
7 Mitä tapahtuu, jos merenpinnat jatkavat nousuaan?
8 Vaikka hidastaisimme lämpötilojen nousua, näkisimme kuitenkin dramaattisia muutoksia rantaviivoissa.

# Apuverbit · Modal verbs

Apuverbejä **can/could, may/might, must, will/would** ja **shall/should** kutsutaan vaillinaisiksi apuverbeiksi, koska niiltä puuttuu aikamuotoja. Puuttuvat aikamuodot korvataan muilla ilmauksilla. Alla olevasta taulukosta näet, millä ilmauksilla puuttuvat aikamuodot korvataan.

| APUVERBI | CAN<br>*voi, pystyy, kykenee, osaa* | MAY / MIGHT<br>*saa, on lupa, saattaa, on ehkä* | MUST<br>*täytyy, on pakko, on varmaankin* |
|---|---|---|---|
| preesens | She **can** dance.<br>Hän osaa tanssia. | You **may** talk.<br>Saat puhua. | I **must** stay.<br>Minun täytyy jäädä. |
| imperfekti | She **could** dance (when she was four).<br>Hän osasi tanssia. | - | - |
| **KORVAAVA MUOTO** ↓ | ↓ | ↓ | ↓ |
| | **be able to** | **be allowed to** | **have to** |
| preesens | She **is able to** dance.<br>Hän pystyy tanssimaan. | You **are allowed to** talk.<br>Saat puhua. | I **have to** stay.<br>Minun täytyy jäädä. |
| imperfekti | She **was able to** dance.<br>Hän pystyi tanssimaan. / She **could** dance (when she was four).<br>Hän osasi tanssia. | You **were allowed to** talk.<br>Sait puhua. | I **had to** stay.<br>Minun piti jäädä. |
| perfekti | She **has been able to** dance.<br>Hän on pystynyt tanssimaan. | You **have been allowed to** talk.<br>Olet saanut puhua. | I **have had to** stay.<br>Minun on pitänyt jäädä. |
| plus-kvamperfekti | She **had been able to** dance.<br>Hän oli pystynyt tanssimaan. | You **had been allowed to** talk.<br>Olit saanut puhua. | I **had had to** stay.<br>Minun oli pitänyt jäädä. |

| APUVERBI<br>KORVAAVA MUOTO | CAN<br>↓ | MAY / MIGHT<br>↓ | MUST<br>↓ |
|---|---|---|---|
| futuuri | She **will be able to** dance.<br>Hän pystyy tanssimaan. | You **will be allowed to** talk.<br>Saat puhua. | I **will have to** stay.<br>Minun pitää jäädä. |
| 1.konditionaali | She **would be able to** dance.<br>Hän pystyisi tanssimaan. | You **would be allowed to** talk.<br>Saisit puhua.<br><br>You **might** like it.<br>Saattaisit pitää siitä. | I **would have to** stay.<br>Minun pitäisi jäädä. |
| 2.konditionaali | She **would have been able to** dance.<br>Hän olisi pystynyt tanssimaan. | You **would have been allowed to** talk.<br>Olisit saanut puhua.<br><br>You **might** have liked it.<br>Olisit saattanut pitää siitä. | I **would have had to** stay.<br>Minun olisi pitänyt jäädä. |
| mennyt aika<br>*apuverbi + have + pääverbin 3. muoto* | She **can't have danced**.<br>Hän ei ole voinut tanssia. | You **may/might have talked**.<br>Sinä olet saattanut puhua. | They **must have stayed**.<br>He ovat varmaankin jääneet. |

## Vaillinaiset apuverbit

- eivät koskaan saa yksikön 3. persoonan s-päätettä eivätkä to-partikkelia.

  The technician measure**s** the air quality every day. (preesens → s-pääte)

  The technician **should measure** the air quality every day.
  The president **must sign** the Paris Agreement.
  (ei s-päätettä eikä *to*-partikkelia apuverbin ja pääverbin välissä)

- kysymyksissä ja kielloissa ei käytetä *do*-apuverbiä.

  – **Should** you wear your protective overalls?
  – No, I **shouldn't**.

## Muita tapoja ilmaista pakkoa

| | |
|---|---|
| **be forced to / be compelled to / be obliged to** | täytyä, olla pakko |
| **need to** | tarvita, täytyä |
| **don't need to, needn't** | ei tarvitse, ei täydy |
| **needn't have + 3. muoto** | ei olisi tarvinnut |
| **should** | pitäisi |
| **ought to** | pitäisi |
| **should have + 3. muoto** | olisi pitänyt |

## Muita ilmauksia

- **would do** oli tapana tehdä

  The environmentalists **would chain** themselves to the old trees.
  Ympäristönsuojelijoilla oli tapana kahlita itsensä...

- **used to do** oli tapana, teki ennen

  We **used to sit** on the beach and watch the waves for hours.
  Meillä oli tapana istua rannalla...

- **be used to doing** olla tottunut tekemään

  They **are used to working** long hours at the factory without any breaks at all.
  He ovat tottuneet työskentelemään...

- **get used to doing** tottua tekemään

  I never **got used to taking** public transport again after living in the USA for so many years.
  En koskaan tottunut käyttämään...

How old am I?

## G12 Choose the correct alternative.

What __1__ we do to promote a greater awareness of the importance of the "Reduce" part of the Reduce-Reuse-Recycle mantra?

We __2__ simplify our lives as much as possible. We __3__ to keep only those items that we use on a regular basis. To be honest, I __4__ simplify my life much at all. However, my sister and I __5__ find a few areas where we __6__ our life to make it more eco-friendly. We have been asked whether we __7__ change our lifestyle.

Actually, it was quite easy. We __8__ an online calculator with which we __9__ determine our ecological footprint. We were __10__ to the store and buying things without really thinking about it at all. Often we __11__ buy so much food that most of it __12__ thrown away. We __13__ reduce waste but we still __14__ figure out how to recycle more efficiently.

1 A had to
B have been allowed
C should

2 A forced to
B ought to
C have been able to

3 A should be allowed
B had had to allow
C ought to have

4 A had been allowed to
B must not
C have not been able to

5 A must be allowed to
B were able to
C could be allowed to

6 A are allowed to improve
B had had to improve
C could improve

7 A have had to
B had had to
C not to have been

8 A were allowed to find
B were able to find
C must have been found

9 A had had to
B could
C should have been allowed to

10 A used to going
B used to go
C ought to go

11 A must
B would
C ought to

12 A had to be
B should be
C can be

13 A have been able to
B must be able to
C were allowed to

14 A are able to
B can
C have to

## G13 Fill in the gaps using the Finnish hints.

1 _____ (Olisimmeko voineet pelastaa) the lovely trees that were cut down on our boulevard?

2 They _____ (varmasti tutkittiin) carefully before any decisions _____ (voitiin tehdä) about their fate.

3 But all of them _____ (eivät varmaankaan voineet olla) rotten?

4 Surely there _____ (saattoi olla) some that _____ (olisi voitu pelastaa)?

5 Most residents felt that the city _____ (olisi voinut säästää) at least the healthiest trees.

6 However, even the environmentalists _____ (täytyi olla samaa mieltä) that it was safest to fell them all.

7 The residents _____ (pystyivät menemään) and look at the felled trunks.

8 They _____ (saivat tutkia) the trunks to see for themselves that they were indeed so rotten that they _____ (täytyi kaataa).

### Modal poem

All the Woulda-Coulda-Shouldas
Layin' in the sun,
Talkin' 'bout the things
They woulda coulda shoulda done...
But those Woulda-Coulda-Shouldas
All ran away and hid
From one little Did.

*Woulda-Coulda-Shoulda* from FALLING UP by Shel Silverstein.
© 1996 Evil Eye Music, Inc. By permission of Edite Kroll Literary Agency Inc.

**G14** In pairs, decide which one of you is A and B. Cover the other half. Take turns translating the sentences and answering them in English.

| | A | B |
|---|---|---|
| 1 | **Were you able to find Naomi Klein's book in the library?** | Pystyitkö löytämään Naomi Kleinin kirjan kirjastosta? |
| 2 | Tiedän, että minun olisi pitänyt löytää se helposti, mutta en pystynyt. | **I know I should've found it easily, but I couldn't.** |
| 3 | **Weren't you able to ask someone in the library for assistance/help?** | Etkö voinut kysyä joltakin kirjastossa apua? |
| 4 | He olivat varmasti tosi kiireisiä, koska en voinut löytää ketään, joka olisi voinut auttaa minua. | **They must've been really busy because I was unable to / not able to / couldn't find anyone who could've helped me.** |
| 5 | **They should really hire more people, shouldn't they?** | Heidän pitäisi todellakin palkata lisää väkeä vai mitä? |
| 6 | Olen samaa mieltä, heidän pitäisi. Koska en voinut saada kirjaa, voisitko tiivistää sen muutamalla lauseella? | **I agree, they should. Since I wasn't able to get the book, could you summarise it in a couple of sentences?** |
| 7 | **You must be kidding, I can't possibly do it.** | Sinä lasket varmasti leikkiä. En millään voi tehdä sitä. |
| 8 | Selvä. Minun täytyy lukea se sitten. Mutta täytyykö minun todella? Se on hyvin paksu kirja. | **Alright. I must read it then. But do I really have to? It's a very thick book!** |
| 9 | **I'd say that it is one book about the environment that everyone should read! We must think of future generations.** | Sanoisin, että se on kirja ympäristöstä, jonka jokaisen pitäisi lukea. Meidän on pakko ajatella tulevia sukupolvia. |
| 10 | No, meidän olisi todellakin pitänyt ajatella tulevaisuutta vuosia sitten. | **Well, we really should've thought about the future years ago.** |

# Passiivi · Passive voice

Passiivi ilmaisee, mitä **tehdään**, **tehtiin** jne. Tekeminen on lauseessa tärkeämpää kuin tekijä.

| | |
|---|---|
| **Preesens** | We need to change how animal behaviour **is studied**.<br>(tutkitaan – yksikkö)<br><br>In this experiment several insect species **are studied**.<br>(tutkitaan – monikko) |
| **Imperfekti** | A wolf **was seen** in the neighbourhood.<br>(nähtiin – yksikkö)<br><br>Two bears **were seen** here last year.<br>(nähtiin – monikko) |
| **Perfekti** | The sheep dog **has been kept** outside because it is restless in the house.<br>(on pidetty – yksikkö)<br><br>So far, the sheep **have been kept** for their wool, but now there is a growing demand for their meat.<br>(on pidetty – monikko) |
| **Plus-kvamperfekti** | A wolf **had been caught** near the farm.<br>(oli otettu kiinni) |
| **Apuverbin yhteydessä kestomuoto** | Now the meat **can be bought** directly from the farmer.<br>(voidaan ostaa)<br><br>The meat **is being packed** and soon I can pay for it.<br>(pakataan parhaillaan) |

## Passiivin muodostus

- Passiivin muodostus: **be + pääverbin 3. muoto**: Animal behaviour **is studied**.
- kestomuodossa **be + being + 3. muoto**: The meat **is being packed**.
- **be** ilmaisee aikamuodon ja taipuu yksikössä/monikossa
  A wolf **was seen**... / Bears **were seen**...
- Jos passiivilauseeseen halutaan saada mukaan tekijä, se voidaan ilmaista *by*-prepositiolla (agentti).
  The meat is being packed **by** the farmer.
  Maanviljelijä pakkaa lihaa.
- Aktiivilauseen muuttaminen passiiviin
  The law does not protect wolves in Russia.
  → Wolves in Russia are not protected **by the law**.
- Puhekielessä passiivi korvataan usein **you**- tai **they**-pronomineilla
  **They** saw a wolf. (A wolf was seen.)

## G15 Rewrite the following sentences using the passive voice.

Example:
Scientists will reintroduce **some species** to their natural habitat.
→ **Some species** will be reintroduced to their natural habitat (by scientists).

1 Hunters shot the last wolf in the UK a few centuries ago.
2 Campaign leaders have invited a famous artist to advertise rewilding.
3 People considered some animals too dangerous.
4 Now they can see some of these animals in the wild again.
5 They have also restored natural forests.
6 They are building a new pond for waterbirds.
7 The children had painted a lot of pictures before their field trip to the forest.
8 They found a nest and took selfies.

## G16 Fill in the passive forms.

Too many species of animals and plants **1** _____ (on menetetty) because of urbanisation. Rewilding, or ecological restoration, means that large protected areas **2** _____ (luodaan) in which animals and plants **3** _____ (esitellään uudelleen) and **4** _____ (jätetään) to their own devices. This year, three lynx cubs **5** _____ (syntyi) at the Ranua Wildlife Park, and **6** _____ (on annettu) to the Hertz Wildlife Park in Germany to strengthen the population there. Of course, rewilding **7** _____ (on kritisoitu). For example, nature enthusiasts do not always understand that predators **8** _____ (tarvitaan) to keep animal populations healthy. Luckily, rewilding **9** _____ (ei tarvitse toteuttaa, *carry out*) in Finland since we have plenty of space for wildlife. On the other hand, if you **10** _____ (pyydettäisiin) to join a rewilding campaign, would you say 'yes'?

## G17 Translate the sentences into English. Use passive voice.

1 Lammesta otetaan vesinäytteitä joka viikko.
2 Niitä analysoidaan parhaillaan.
3 Viime kuussa löytyi laajoja bakteerikeskittymiä. (*high concentrations of bacteria*)
4 Huonoja tuloksia oli odotettu.
5 Jätettä on täytynyt heittää lampeen.
6 Linnut piti pelastaa saastuneesta vedestä.
7 Nyt toivotaan parempia tuloksia.
8 Vierailijoille pitäisi kertoa, miten käyttäytyä suojelualueella.

# Artikkelit · Articles

| **Käytä artikkelia *a/an*** | **Käytä määräistä artikkelia *the*** | **Ei artikkelia** |
|---|---|---|
| Laskettavien substantiivien edessä (yksi, eräs):<br><br>I'd like to get **a dog**.<br>I saw **an elephant** at the zoo. | Kun puhutaan tiedetystä asiasta tai asiasta joita on vain yksi:<br><br>That is **the dog** that bit me.<br>Pass me **the sugar**, please. | Monikollisten tai aine- ja käsitesanojen yhteydessä:<br><br>Have you ever fed **hedgehogs**?<br>You should not give them **milk**. |

**Joidenkin sanojen merkitys muuttuu, jos artikkelia käytetään:**

| | | | |
|---|---|---|---|
| **nature** | luonto | **a nature** | luonne |
| **society** | yhteiskunta | **a society** | yhdistys |
| **crime** | rikollisuus | **a crime** | rikos |

Artikkeli laitetaan yleensä ennen pääsanaa ja määreitä (a very good deal), mutta huomaa seuraavat poikkeukset:

- **a/an**

  Sanojen **half, such, quite, what** jälkeen:
  You are **such a** cute puppy!

  Sanoihin **as, how, however, so** ja **too** liittyvän adjektiivin jälkeen:
  It was **too long a** journey.

- **the**

  Sanojen **all, double, half ja twice** jälkeen:
  **Half the** people didn't show up.

  Superlatiivien kanssa:
  **The most** intelligent student.

## Opettele nämä säännöt

| | **Ei artikkelia** | **Artikkeli *the*** |
|---|---|---|
| **ajanilmaukset** | on Monday, at Christmas, in March | in the 90s, the winter of 2017, in the 21st century (vuosikymmenet, -sadat jne.) |
| **järjestysluvut** | He came second. | the first time |
| **liikkumis-välineet** | by plane / train / bus / car, on foot | Don't miss the bus! (tietty bussi) |
| **tarkentavat adjektiivit** | See you next week! It was last week we met. (ensi, viime) | the next flight (seuraava) the last train (viimeinen) |
| **ateriat** | Let's have lunch tomorrow! | The lunch we had was delicious. (tietty lounas) |
| **paikka** | I go to school/church every day. (rakennuksen käyttötarkoitus) | The prison looks gloomy. (rakennus) |
| **ilmansuunnat ja sijainti** | Turn left – it is south of... I live in southern Finland. | in the north the building on the right is... (prepositioiden jäljessä) |
| **arvo- tai virkanimi** | Queen Victoria (arvonimi + erisnimi) She was elected/became President. | The Queen met the President. (nimeä ei mainita) |

## Erisnimien artikkelit

| | **Ei artikkelia** | **Artikkeli *the*** |
|---|---|---|
| **yksikölliset maantieteelliset nimet** | Estonia, central Finland, Mount Everest, Mount Etna | |
| **monikolliset maantieteelliset ja ihmisten nimet** | | the Alps, the Canary Islands, the USA, the Taylors, the Joneses |
| **erisnimi+yleisnimi** | Heathrow Airport, Ellis Island | |
| **adjektiivi+yleisnimi** | | the English Channel, the European Union |
| **yleisnimi+yleisnimi** | | the United Kingdom, the Empire State Building |
| **of-määre nimessä** | | the Gulf of Finland, the Republic of China |
| **vesistöt, autiomaat** | Lake Victoria, Lake Saimaa (järvet) | the Hudson River, the Thames, the Mediterranean, the Sahara |
| **huvittelupaikat, laivat, junat** | | The Odeon, The Ritz, the British Museum, the Titanic |
| **englanninkieliset aikakaus- ja sanoma lehdet** | Time, Newsweek, Wired | The Times, The Guardian, The Washington Post |
| **puistot, aukiot, kaupunginosat, kadut, stadionit** | Let's go to Manhattan, Central Park, Broadway, Yankee Stadium... | |

## G18 Fill in the articles the or a/an where necessary.

1 We are going on _____ holiday with _____ Smiths next Monday.

2 What's for _____ dinner? _____ dinner we had yesterday was excellent.

3 We usually go to _____ church at _____ Christmas. However, _____ next Christmas will be _____ exception.

4 Have you seen _____ moon tonight? It looks brighter than _____ sun.

5 I generally go by _____ train to _____ work, but I sometimes take _____ bus if I'm running late.

6 She was born in _____ 1960s, but she looks younger than _____ boss.

7 Would you like _____ coffee? I hate _____ tea.

8 Murder is _____ crime against _____ society.

9 I visited _____ Hyde Park in _____ London. I went to _____ Soho and _____ Science Museum. I saw _____ musical at _____ Lyric theatre. I also read _____ *Guardian* every day.

10 Have you been to _____ Alps?

A host of golden daffodils.

## G19 Fill in the articles the or a/an where necessary.

### The frozen ark

In **1** _____ Bible animals were saved from **2** _____ extinction by walking into Noah's Ark. Modern 'arks' are much more hi-tech than **3** _____ ship described in Genesis. In **4** _____ early 21st century **5** _____ scientists came up with **6** _____ plan to preserve **7** _____ DNA of endangered species called the Frozen Ark project. Experts argue that this is increasingly urgent because every year **8** _____ hundreds of species are disappearing as **9** _____ Earth undergoes what is being called **10** _____ sixth mass extinction.

So far, 48,000 samples have been collected from **11** _____ 5,000 species including the Siberian tiger and the Amur leopard. "The idea of the Frozen Ark project is to gather and preserve genetic material for **12** _____ future generations before it's too late," said John Armour, **13** _____ Professor of Human Genetics at **14** _____ University of Nottingham, which is host to the project. Launched over **15** _____ decade ago by **16** _____ team of scientists from **17** _____ UK, the Frozen Ark network now has 22 partners worldwide all trying to preserve **18** _____ nature, in all its many and varied forms. Based in **19** _____ Nottingham, some of **20** _____ 705 samples are kept at room temperature and others are in **21** _____ freezer at -80°C, including samples from a Siberian tiger and an Amur leopard.

The data stored in sites like these has **22** _____ number of uses. Firstly, as science advances, **23** _____ next step could be to use **24** _____ DNA stored in these animal banks to explain how **25** _____ certain genes work. In **26** _____ future, it may also be possible to recreate **27** _____ extinct organism by using **28** _____ genetic information stored in the bank. "Some people say we're playing **29** _____ God," said Professor Armour. "But I say it's for future generations to decide what to do with **30** _____ information. If we don't get it stored, there will be no choice."

# Relatiivipronominit · Relative pronouns

Korrelaatti on sana, johon relatiivipronomini viittaa.

| **that** (joka, mikä) | **which** (joka, mikä) | **who** (joka)<br>**whose** (jonka, minkä)<br>**whom** (jota + preposition jälkeen) |
|---|---|---|
| **asioihin**<br>Mumbai is **a city** **that** is continuously growing. | **asioihin**<br>Mumbai is **a city** **which** is continuously growing. | |
| **esineisiin**<br>Is that **the bike** **that** you bought at Viv's store? | **esineisiin**<br>Is that **the bike** **which** you bought at Viv's store? | |
| **ihmisiin**<br>There are over 200 **ethnic groups** **that (who)** call Auckland home. | | **ihmisiin**<br>**Viv**, **who** lives in New Zealand, enjoys its natural beauty. |
| **superlatiiviin**<br>**The most exciting** place **that** I visited in Auckland was a volcanic hill. | **eläimiin**<br>Did you see **the dog** **which (that)** was hiding in the shelter? | **ilmaisee genetiivin**<br>**Parvez**, **whose** family lives in a slum, has a clear plan for the future. |
| **-thing-loppuisiin pronomineihin**<br>Clubbing is **something** **that** I would like to do when I visit London. | **edeltävään lauseeseen**<br>**Cities generate wealth**, **which** is a positive thing. | **ilmaisee genetiivin myös asioiden ja esineiden kanssa**<br>There are several **shelters** **whose** walls need painting. |
| **järjestyslukuun**<br>The **first** animal **that** I saw in the sanctuary was a kiwi. | **preposition jälkeen**<br>This is a place **in** **which** you can see a lot of wildlife. | **preposition jälkeen**<br>Parvez, **with** **whom** I toured Dharavi, is now studying for an MBA. |
| sanoihin: **last, only, all, little, much, few**<br>It was the **only** bicycle **that** was available. | | |

## Erityistapauksia

- Relatiivipronomini **what** on harvinainen, koska se sisältää korrelaatin. Se suomennetaan kahdella sanalla *se joka, se mitä*.

  **What** my guide said about local customs was really interesting.

- **where** voi korvata **in which** -yhdistelmän viitattaessa paikkaan (*jossa*)

  Copenhagen is a city **in which/where** it is very convenient to cycle.

- **when** voi korvata **in which** -yhdistelmän viitattaessa aikaan (*jolloin*)

  The 1960s was a decade **in which/when** people started to buy more cars and cycling became more dangerous in the city.

- Huomaa myös rakenteet:
  **all of whom/which** (*joista kaikki*)
  **most of whom/which** (*joista useimmat*)
  **none of whom/which** (*joista ei kukaan/mikään/yksikään*)
  **either/neither of whom/which** (*joista jompikumpi/toinen, joista ei kumpikaan*)

  We cycled through the crowd, **none of whom** objected to our bicycles.

**G20** Choose the correct alternative. Think about the reason for your choice.

1 Increased earnings mean increased tax revenue, **that** / **which** / **what** pays for the services of our welfare society.
2 Cities also provide a habitat in **that** / **which** / **where** ideas can flourish.
3 Urban populations need to be fed, transported and entertained, **that** / **which** / **what** means plenty of work for the providers of the services.
4 Every city has its poorer districts **who** / **which** / **what** have little in common with the fashionable malls in the city centres.
5 It also suits today's city dwellers **what** / **which** / **who** want to spend less of their free time working in the garden.
6 **That** / **Which** / **What** Vienna, Vancouver and Melbourne have in common is an efficient system of public transport.

## Relatiivipronominin poisjättäminen

- Relatiivipronominia ei välttämättä tarvita, jos se on relatiivilauseen **objekti**.

  obj. subj.

  Amsterdam is definitely one of those cities **(that)** I would like to discover by bike.

- Jos relatiivipronomini on relatiivilauseen **subjekti**, sitä ei voi jättää pois.

  subj.

  The salesman told me it was the best fat bike **that** had ever been manufactured.

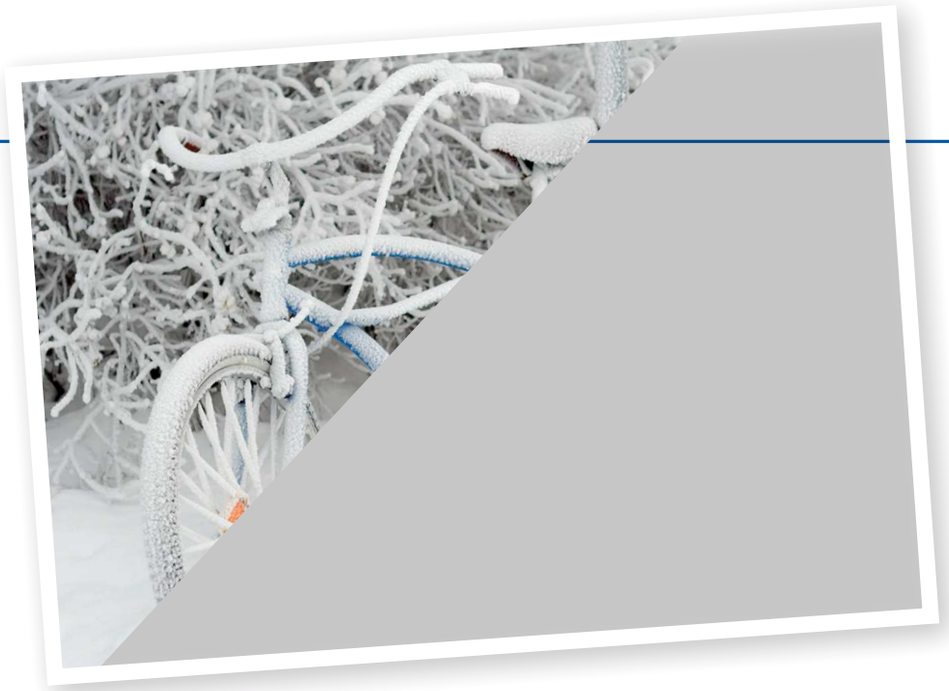
## Pilkun käyttö ja relatiivilause

- Jos relatiivilause tuo lauseen kannalta **välttämätöntä** lisätietoa, relatiivilause on kiinteä ja silloin sen yhteydessä **ei käytetä pilkkua**.

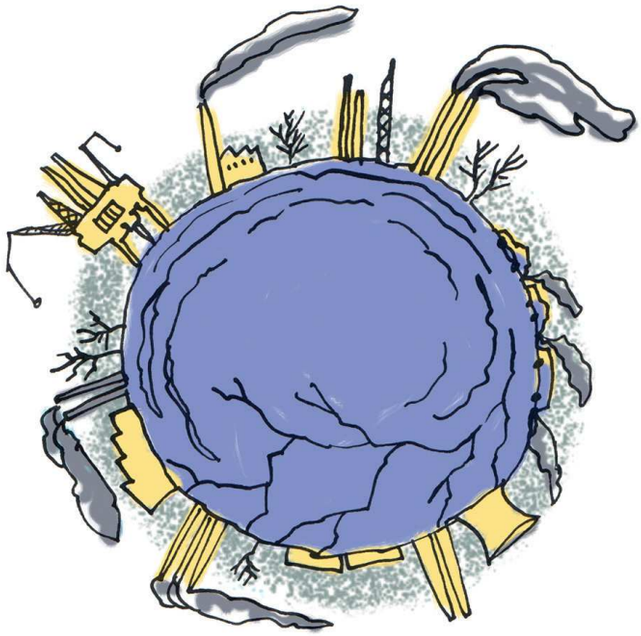
  Don't buy a cheap helmet. Buy a helmet that will offer real protection.

- Jos relatiivilauseen sisältämä tieto on **lisähuomautuksen kaltainen**, sen yhteydessä **käytetään pilkkua**.

  Cycling on Finnish roads, which can be icy, can be quite challenging.



The Finnish winter challenge.



## G21 Fill in the relative pronouns.

1 The world's cities are slowly going greener, _____ is a great thing.
2 One "green indicator" is the number of trips _____ are made using public transport.
3 What do you want from a place in _____ you are going to study or work?
4 Many people want the town _____ they call home to have communal gardens and parks.
5 Is there anything _____ you could do to make your home town greener?
6 Reykjavik is one of the few capitals _____ can gather energy from geothermal resources and make use of hydro power.
7 _____ is exceptional about Reykjavik is that many residents do not live there permanently.
8 Portland is the city _____ banned the use of plastic bags long before other American towns.
9 Plastic bags, most of _____ are quickly thrown away, often end up in the sea.
10 Portland has over 600,000 inhabitants _____ enthusiasm for locally produced foods is growing.
11 They like to buy from producers, some of _____ they know personally.
12 All _____ matters is the quality of the food.

## G22 Fill in the missing relative pronouns.

People **1** _____ live in Indian slums often work as servants, rag pickers or rikshaw wallahs – a job **2** _____ involves pulling a rikshaw. Child labour is a problem **3** _____ needs be tackled. However, this is challenging because families **4** _____ are in financial difficulty put everyone to work in order to make ends meet. Visiting India, I met a child **5** _____ was only five and already working as a drain cleaner. His family live in a slum **6** _____ is going to be demolished. No date has been set for demolition, **7** _____ means that the inhabitants live in uncertainty about the future. Another challenge residents face is overcrowding. Most families have at least six members in their living space, the bedroom of **8** _____ is shared with another family. These homes do not always have indoor toilets, **9** _____ leads to several families using a communal bathroom **10** _____ does not even have a proper drainage system. Open sewers cause water contamination **11** _____ is a cause of serious health problems. Slum tours are something **12** _____ divides opinion; are they ethical or do they treat slums as a sort of human zoo?

## G23 Translate the sentences into English.

1 Ystäväni, joista kumpikaan ei pidä matkustamisesta, päättivät retkeillä läheisessä metsässä.
2 He halusivat käyttää telttaa, jonka ostin vuosi sitten.
3 En halunnut antaa heidän käyttää uusinta retkeilyvälinettä, joka minulla oli.
4 ”Täytyykö teidän yöpyä metsässä, joka on niin lähellä kotia”, kysyin heiltä.
5 ”Ulkona nukkuminen on juuri sitä, mitä odotamme innolla”, he vastasivat.

# Epäsäännölliset verbit · Irregular verbs

| | | |
|---|---|---|
| **a** | **arise, arose, arisen** [əˈraiz, əˈrəuz, əˈrizn] | nousta, syntyä, ilmetä |
| | **awake, awoke, awoken/awakened** [əˈweik, əˈwəuk, əˈwəukən/əˈweikənt] | herätä |
| **b** | **be, was/were, been** [biː, wɔz, wəəː(r), biːn] | olla |
| | **bear, bore, borne** [beə(r), bɔː(r), bɔːn] **born** = syntynyt | kantaa, kestää, sietää, synnyttää |
| | **beat, beat, beaten** [biːt, biːt, biːtn] | lyödä, voittaa |
| | **become, became, become** [biˈkʌm, biˈkeim, biˈkʌm] | tulla joksikin |
| | **begin, began, begun** [biˈgin, biˈgæn, biˈgʌn] | alkaa |
| | **bend, bent, bent** [bend, bent, bent] | taivuttaa, taipua |
| | **bet, bet/betted, bet/betted** [bet, bet/betid, bet/betid] | lyödä vetoa |
| | **bid, bid, bid** [bid, bid, bid] | tarjota, tehdä tarjous (esim. huutokaupassa) |
| | **bind, bound, bound** [baind, baund, baund] | sitoa |
| | **bite, bit, bitten/bit** [bait, bit, bitn/bit] | purra, tarttua (onkeen) |
| | **bleed, bled, bled** [bliːd, bled, bled] | vuotaa verta |
| | **blow, blew, blown** [bləu, bluː, bləun] | puhaltaa, tuulla |
| | **break, broke, broken** [breik, brɔuk, brɔukn] | katkaista, murtaa, särkeä, murtua, särkyä |
| | **breed, bred, bred** [briːd, bred, bred] | kasvattaa, jalostaa (eläimiä, kasveja) |
| | **bring, brought, brought** [briŋ, brɔːt, brɔːt] | tuoda |
| | **broadcast, broadcast, broadcast** [brɔːdkɑːst, brɔːdkɑːst, brɔːdkɑːst] | lähettää (radiosta, TV:stä) |
| | **build, built, built** [bild, bilt, bilt] | rakentaa |
| | **burn, burnt/burned, burnt/burned** [bəːn, bəːnt/bəːnd, bəːnt/bəːnd] | palaa, polttaa |
| | **burst, burst, burst** [bəːst, bəːst, bəːst] | haljeta, särkyä, puhjeta, syöksyä, särkeä, puhkaista |
| | **buy, bought, bought** [bai, bɔːt, bɔːt] | ostaa |
| **c** | **cast, cast, cast** [kɑːst, kɑːst, kɑːst] | valaa, heittää (esim. varjo, katse) |
| | **catch, caught, caught** [kætʃ, kɔːt, kɔːt] | saada kiinni, ottaa kiinni, pyydystää |
| | **choose, chose, chosen** [tʃuːz, tʃəuz, tʃəuzn] | valita |
| | **cling, clung, clung** [kliŋ, klʌŋ, klʌŋ] | takertua, tarrautua, pitää kiinni |
| | **come, came, come** [kʌm, keim, kʌm] | tulla, saapua |
| | **cost, cost, cost** [kɔst, kɔst, kɔst] | maksaa, olla hintana |
| | **creep, crept, crept** [kriːp, krept, krept] | ryömiä, madella, hiipiä |
| | **cut, cut, cut** [kʌt, kʌt, kʌt] | leikata, hakata, kaataa |

| | | |
|---|---|---|
| **d** | **deal, dealt, dealt** [di:l, delt, delt] | käsitellä, jakaa, antaa, käydä kauppaa, olla tekemisissä |
| | **dig, dug, dug** [dig, dʌg, dʌg] | kaivaa |
| | **do/does, did, done** [du:/dʌz, did, dʌn] | tehdä |
| | **draw, drew, drawn** [drɔ:, dru:, drɔ:n] | vetää, piirtää, laatia |
| | **dream, dreamt/dreamed, dreamt/dreamed** [dri:m, dremt/dri:md, dremt/dri:md] | uneksia |
| | **drink, drank, drunk** [driŋk, dræŋk, drʌŋk] | juoda |
| | **drive, drove, driven** [draiv, drəuv, drivn] | ajaa |
| | **dwell, dwelt/dwelled, dwelt** [dwel, dwelt/dweld, dwelt] | asua, oleskella |
| **e** | **eat, ate, eaten** [i:t, et /(AmE) eit, i:tn] | syödä |
| **f** | **fall, fell, fallen** [fɔ:l, fel, fɔ:ln] | pudota, kaatua |
| | **feed, fed, fed** [fi:d, fed, fed] | syöttää, ruokkia |
| | **feel, felt, felt** [fi:l, felt, felt] | tuntea (olevansa), tuntua, tunnustella |
| | **fight, fought, fought** [fait, fɔ:t, fɔ:t] | tapella, taistella |
| | **find, found, found** [faind, faund, faund] | löytää |
| | **flee, fled, fled** [fli:, fled, fled] | paeta |
| | **fling, flung, flung** [fliŋ, flʌŋ, flʌŋ] | heittää, singota, paiskata |
| | **fly, flew, flown** [flai, flu:, fləun] | lentää |
| | **forbid, forbade/(AmE) forbad, forbidden** [fə'bid, fə'bæd/fɔ'beid, fɔ'bidn] | kieltää |
| | **forget, forgot, forgotten/(AmE) forgot** [fə'get, fə'gɔt, fə'gɔtn/fə'gɔt] | unohtaa |
| | **forgive, forgave, forgiven** [fə'giv, fə'geiv, fə'givn] | antaa anteeksi |
| | **forsake, forsook, forsaken** [fə'seik, fə'suk, fə'seikn] | hylätä, luopua |
| | **freeze, froze, frozen** [fri:z, frəuz, frəuzn] | jäätyä, paleltua, palella |
| **g** | **get, got, got/(AmE) gotten** [get, gɔt, gɔt/gɔtn] | saada jtk, hankkia, tulla joksikin, saada tekemään, tehdyksi, päästä |
| | **give, gave, given** [giv, geiv, givn] | antaa |
| | **go, went, gone** [gəu, went, gɔn] | mennä, kulkea, matkustaa |
| | **grind, ground, ground** [graind, graund, graund] | jauhaa |
| | **grow, grew, grown** [grəu, gru:, grəun] | kasvaa, kasvattaa, tulla joksikin |
| **h** | **hang, hung, hung** [hæŋ, hʌŋ, hʌŋ] | riippua, ripustaa |
| | **have, had, had** [hæv, hæd, hæd] | omistaa, olla jllak |
| | **hear, heard, heard** [hiə(r), hə:d, hə:d] | kuulla, saada kuulla, saada tietää |
| | **hit, hit, hit** [hit, hit, hit] | iskeä, osua |
| | **hide, hid, hidden** [haid, hid, hidn] | piilottaa, piileskellä |
| | **hold, held, held** [həuld, held, held] | pitää, vetää (esim. astiasta), sisältää |
| | **hurt, hurt, hurt** [hə:t, hə:t, hə:t] | loukata, tehdä kipeää |

| | | |
|---|---|---|
| **k** | **keep, kept, kept** [kiːp, kept, kept] | pitää, säilyttää, pysyä, säilyä, tehdä jtk jatkuvasti |
| | **kneel, knelt/kneeled, knelt/kneeled** [niːl, nelt/niːld, nelt/niːld] | polvistua |
| | **knit, knit/knitted, knit/knitted** [nit, nit/nitid, nit/nitid] | kutoa, neuloa |
| | **know, knew, known** [nəu, njuː, nəun] | tietää, osata, tuntea |
| **l** | **lay, laid, laid** [lei, leid, leid] | panna (pitkälleen), laskea, asettaa, kattaa (pöytä) |
| | **lead, led, led** [liːd, led, led] | johtaa, viedä, taluttaa |
| | **lean, leant/leaned, leant/leaned** [liːn, lent/liːnd, lent/ liːnd] | nojata, nojautua |
| | **learn, learnt/learned, learnt/learned** [ləːn, ləːnt/ləːnd, ləːnt/ləːnd] | oppia, opetella, saada tietää, saada kuulla |
| | **leave, left, left** [liːv, left, left] | jättää, lähteä |
| | **lend, lent, lent** [lend, lent, lent] | lainata jllek, antaa lainaksi |
| | **let, let, let** [let, let, let] | antaa, sallia, päästää, vuokrata, antaa vuokralle |
| | **lie, lay, lain** [lai, lei, lein] | maata, olla, sijaita |
| | **light, lit/lighted, lit/lighted** [lait, lit/laitid, lit/laitid] | sytyttää |
| | **lose, lost, lost** [luːz, lɔst, lɔst] | kadottaa, menettää |
| **m** | **make, made, made** [meik, meid, meid] | tehdä, valmistaa, saada jk tekemään jtk |
| | **mean, meant, meant** [miːn, ment, ment] | tarkoittaa, merkitä, aikoa |
| | **meet, met, met** [miːt, met, met] | tavata, kohdata, tulla vastaan |
| | **mistake, mistook, mistaken** [mis'teik, mis'tuk, mis'teikn] | erehtyä (luulemaan jtk jksk), käsittää väärin |
| | **misunderstand, misunderstood, misunderstood** [misʌndə'stænd, misʌndə'stud, misʌndə'stud] | ymmärtää väärin |
| | **mow, mowed, mown/mowed** [məu, məud, məun/məud] | leikata (ruohoa) |
| **o** | **overcome, overcame, overcome** [əuvə'kʌm, əuvə'keim, əuvə'kʌm] | voittaa |
| | **overtake, overtook, overtaken** [əuvə'teik, əuvə'tuk, əuvə'teikn] | ohittaa |
| **p** | **pay, paid, paid** [pei, peid, peid] | maksaa, antaa maksuksi, kannattaa |
| | **put, put, put** [put, put, put] | panna, asettaa |
| **q** | **quit, quit, quit** [kwit, kwit, kwit] | lakata tekemästä, luopua, sanoutua irti |
| **r** | **read, read, read** [riːd, red, red] | lukea |
| | **ride, rode, ridden** [raid, rəud, ridn] | ratsastaa, ajaa (pyörällä), olla matkustajana |
| | **ring, rang, rung** [riŋ, ræŋ, rʌŋ] | soittaa, soida |
| | **rise, rose, risen** [raiz, rəuz, rizn] | nousta, kohota |
| | **run, ran, run** [rʌn, ræn, rʌn] | juosta, (kulkuneuvosta) kulkea, virrata, valua, johtaa, hoitaa (yritystä) |

S

| | |
|---|---|
| **saw, sawed, sawn/sawed** [sɔː, sɔːd, sɔːn/sɔːd] | sahata |
| **say, said, said** [sei, sed, sed] | sanoa |
| **see, saw, seen** [siː, sɔː, siːn] | nähdä, ymmärtää |
| **seek, sought, sought** [siːk, sɔːt, sɔːt] | etsiä, tavoitella |
| **sell, sold, sold** [sel, səuld, səuld] | myydä, mennä kaupaksi |
| **send, sent, sent** [send, sent, sent] | lähettää |
| **set, set, set** [set, set, set] | panna, asettaa, laskea (auringosta) |
| **sew, sewed, sewn/sewed** [səu, səud, səun/səud] | ommella |
| **shake, shook, shaken** [ʃeik, ʃuk, ʃeikn] | ravistaa, pudistaa |
| **shed, shed, shed** [ʃed, ʃed, ʃed] | vuodattaa, valaa, säteillä |
| **shine, shone, shone** [ʃain, ʃɔn, ʃɔn] | loistaa, paistaa |
| **shoot, shot, shot** [ʃuːt, ʃɔt, ʃɔt] | ampua, laukaista |
| **show, showed, shown/showed** [ʃəu, ʃəud, ʃəun/ʃəud] | näyttää, osoittaa |
| **shrink, shrank, shrunk** [ʃriŋk, ʃræŋk, ʃrʌŋk] | kutistua |
| **shut, shut, shut** [ʃʌt, ʃʌt, ʃʌt] | sulkea, sulkeutua |
| **sing, sang, sung** [siŋ, sæŋ, sʌŋ] | laulaa |
| **sink, sank, sunk** [siŋk, sæŋk, sʌŋk] | upota, vaipua, upottaa |
| **sit, sat, sat** [sit, sæt, sæt] | istua |
| **slay, slew, slain** [slei, sluː, slein] | lyödä kuoliaaksi |
| **sleep, slept, slept** [sliːp, slept, slept] | nukkua |
| **slide, slid, slid** [slaid, slid, slid] | liukua |
| **sling, slung, slung** [sliŋ, slʌŋ, slʌŋ] | sinkauttaa, paiskata, heittää |
| **slit, slit, slit** [slit, slit, slit] | viiltää halki, haljeta |
| **smell, smelt/smelled, smelt/smelled** [smel, smelt/smeld, smelt/smeld] | haistaa, haista, tuoksua |
| **sneak, sneaked/(AmE) snuck, sneaked/(AmE) snuck** [sniːk, sniːkt/snʌk, sniːkt/snʌk] | hiipiä, pujahtaa |
| **sow, sowed, sown/sowed** [səu, səud, səun/səud] | kylvää |
| **speak, spoke, spoken** [spiːk, spəuk, spəukn] | puhua |
| **speed, sped/speeded, sped/speeded** [spiːd, sped/spiːdid, sped/spiːdid] | kiitää, ajaa ylinopeutta, nopeuttaa, vauhdittaa |
| **spell, spelt/spelled, spelt/spelled** [spel, spelt/speld, spelt/speld] | kirjoittaa, tavata |
| **spend, spent, spent** [spend, spent, spent] | viettää, kuluttaa (aikaa, rahaa) |
| **spill, spilt/spilled, spilt/ spilled** [spil, spilt/spild, spilt/ spild] | läikyttää |
| **spin, spun, spun** [spin, spʌn, spʌn] | kehrätä, panna pyörimään, pyöriä |
| **spit, spat/(AmE) spit, spat/(AmE) spit** [spit, spæt/spit, spæt/spit] | sylkeä |
| **split, split, split** [split, split, split] | halkaista |
| **spoil, spoilt/spoiled, spoilt/spoiled** [spɔil, spɔilt/spɔild, spɔilt/spɔild] | turmella, pilata, hemmotella |

| | | |
|---|---|---|
| | **spread, spread, spread** [spred, spred, spred] | levittää, levitä, levittäytyä |
| | **spring, sprang, sprung** [spriŋ, spræŋ, sprʌŋ] | hypähtää, hypätä |
| | **stand, stood, stood** [stænd, stud, stud] | seistä, sietää, kestää |
| | **steal, stole, stolen** [stiːl, stəul, stəuln] | varastaa, hiipiä, livahtaa |
| | **stick, stuck, stuck** [stik, stʌk, stʌk] | pistää, kiinnittää, juuttua, pitäytyä |
| | **sting, stung, stung** [stiŋ, stʌŋ, stʌŋ] | pistää (jollakin terävällä) |
| | **stink, stank/stunk, stunk** [stiŋk, stæŋk/stʌŋk, stʌŋk] | löyhkätä, haista |
| | **stride, strode, stridden** [straid, strəud, stridn] | harppoa, kulkea pitkin askelin |
| | **strike, struck, struck** [straik, strʌk, strʌk] | lyödä, iskeä, tehdä lakko, juolahtaa mieleen |
| | **strive, strove, striven** [straiv, strəuv, strivn] | pyrkiä, ponnistella |
| | **sweat, sweat/sweated, sweat/sweated** [swet, swet/swetid, swet/swetid] | hikoilla, rehkiä, raataa |
| | **swear, swore, sworn** [sweə(r), swɔː(r), swɔːn] | vannoa, kirota |
| | **sweep, swept, swept** [swiːp, swept, swept] | lakaista, pyyhkäistä |
| | **swim, swam, swum** [swim, swæm, swʌm] | uida |
| | **swing, swung, swung** [swiŋ, swʌŋ, swʌŋ] | heiluttaa, heilua |
| **t** | **take, took, taken** [teik, tuk, teikn] | ottaa, viedä |
| | **teach, taught, taught** [tiːtʃ, tɔːt, tɔːt] | opettaa |
| | **tear, tore, torn** [teə(r), tɔː(r), tɔːn] | repiä |
| | **tell, told, told** [tel, təuld, təuld] | kertoa, sanoa, käskeä |
| | **think, thought, thought** [θiŋk, θɔːt, θɔːt] | ajatella, luulla, olla jotakin mieltä |
| | **throw, threw, thrown** [θrəu, θruː, θrəun] | heittää |
| | **thrust, thrust, thrust** [θrʌst, θrʌst, θrʌst] | työntää, sysätä, tunkeutua |
| | **tread, trod, trodden** [tred, trɔd, trɔdn] | polkea, tallata, astua |
| **u** | **undergo, underwent, undergone** [ʌndəˈgəu, ʌndəˈwent, ʌndəˈgɔn] | läpikäydä, joutua kokemaan |
| | **understand, understood, understood** [ʌndəˈstænd, ʌndəˈstud, ʌndəˈstud] | ymmärtää |
| | **undertake, undertook, undertaken** [ʌndəˈteik, ʌndəˈtuk, ʌndəˈteikn] | ryhtyä, ottaa tehtäväkseen |
| | **upset, upset, upset** [ʌpˈset, ʌpˈset, ʌpˈset] | järkyttää, panna sekaisin |
| **w** | **wake, woke/waked, woken/waked** [weik, wəuk/weikt, wəukn/weikt] | herättää, herätä |
| | **wear, wore, worn** [weə(r), wɔː(r), wɔːn] | käyttää, pitää (yllään), kuluttaa, kulua |
| | **weave, wove, woven** [wiːv, wəuv, wəuvn] | kutoa (kangasta) |
| | **weep, wept, wept** [wiːp, wept, wept] | itkeä |
| | **win, won, won** [win, wʌn, wʌn] | voittaa |
| | **wind, wound, wound** [waind, waund, waund] | vääntää (käyntiin), kiertää, kiemurrella, vetää |
| | **withdraw, withdrew, withdrawn** [wiðˈdrɔː, wiðˈdruː, wiðˈdrɔːn] | vetää pois, vetäytyä, nostaa (rahaa) |
| | **wring, wrung, wrung** [riŋ, rʌŋ, rʌŋ] | vääntää, väännellä |
| | **write, wrote, written** [rait, rout, ritn] | kirjoittaa |

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